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INSTALLATION RESTORATION PROGRAM PHASE II - CONFIRMATION/QUANTIFICATION STAGE 1

VOLUME II

U.S. AIR FORCE PLANT NO. 42 Palmdale, California

PREPARED FOR

HEADQUARTERS AERONAUTICAL SYSTEMS DIVISION FACILITIES MANAGEMENT DIVISION (ASD/PMDA) WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6503

AND

HEADQUARTERS AIR FORCE SYSTEMS COMMAND COMMAND BIOENVIRONMENTAL ENGINEER (AFSC/SGPB) ANDREWS AIR FORCE BASE, DIST. OF COLUMBIA 20334-5000

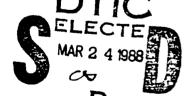
UNITED STATES AIR FORCE OCCUPATIONAL & ENVIRONMENTAL HEALTH LABORATORY TECHNICAL SERVICES DIVISION (USAFOEHL/TS) BROOKS AIR FORCE BASE, TEXAS 78235-5501

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FEBRUARY 1987

FINAL REPORT

PREPARED BY



ENGINEERING-SCIENCE, INC.

Pasadena, California 91103 Atlanta, Georgia 30329

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NOTICE

This report has been prepared for the United States Air Force by Engineering-Science, Inc. for the purpose of aiding in the implementation of the Air Force Installation Restoration Program. It is not an endorsement of any product. The views expressed herein are those of the contractor and do not necessarily reflect the official views of the publishing agency, the United States Air Force, or the Department of Defense.

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VOLUME II

Final Report For

U.S. AIR FORCE PLANT NO. 42 Palmdale, California

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HEADQUARTERS AERONAUTICAL SYSTEMS DIVISION FACILITIES MANAGEMENT DIVISION (ASD/PMDA) WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6503

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OCCUPATIONAL & ENVIRONMENTAL HEALTH LABORATORY
TECHNICAL SERVICES DIVISION (USAFOEHL/TS)
BROOKS AIR FORCE BASE, TEXAS 78235-5501



February 1987

Prepared By

ENGINEERING-SCIENCE, INC. 75 North Fair Oaks Avenue Pasadena, California 91103

and

57 Executive Park South, Suite 590 Atlanta, Georgia 30329

USAF CONTRACT NO. F33615-84-D-4403
DELIVERY ORDER NO. 001102
USAFOEHL TECHNICAL PROGRAM MANAGER
John K. Yu, Ph.D.

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17 COSATI CODES	18 SUBJECT TERMS				
SUB-GROUP	IRP, PHASE II	, usaf plant	42, PALMO	ALE, CERCL	Α,
	HAZARDOUS WAS	TE, CONTAMIN	ATION, HYD	ROGEOLOGY,	MONITORING.
HAZARDOUS WASTE, CONTAMINATION, HYDROGEOLOGY, MONITORING. 19 ABSTRACT (Continue on reverse if necessary and identify by block number)					
An Installation Restora			Stage 1 i	nvestigati	on was conducted
at USAF Plant 42 in Palmdale	, California, to	confirm the	presence	or absence	of contami-
nation at 23 sites. Contami	nation was suspe	cted at the	sites as a	result of	past spills.
leaks, or waste disposal pra	ctices. A field	l investigati	ou brodram	was condu	cted, consistind
of soil boring and sampling,	grouncwater sam	mpiing, and c	hemical an	alysis of	environmental
samples (water and soils) fo found at 17 of the sites. F	r suspected cont	aminants. N	o signific	ant contam	inants were
detected at 5 sites, 3 of wh	ich also had vol	atile organi	nyurocarb cs present	ons of off	her site. To
contamination was found, but	other evidence	suggested th	at contami	nants mich	t be present.
No contamination was found i	n any groundwate	er samples; a	11 contami	nants dete	cted were in
the unsaturated cone. No fu					
was not found. Additional (IRP Phase II, S'	inge 2) inves	tigations	were recom	mended for 4
sites where the extent of co recommended for 2 sites beca	nuamination was	not rully de	remined.	Remedial .	action was
20 DISTRIGUTION AVAILABILITY OF ABSTRACT		21 ABSTRAC S			elected. —
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VOLUME II

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ANALYTICAL SERVICES

June 19, 1986

Engineering Science 57 Executive Park South N.E. Suite 590 Atlanta, GA 30329

Attn: Mark Guthrie

Quality assurance shall include at least the following parameters for the Metals Lab:

The calibration blank is prepared by diluting 2mL of (1+1) nitric acid and 10~mL of (1+1) HCl to 100mL with deionized, distilled water. Prepare a sufficient quantity to be used to flush the system between standards and samples.

The instrument check standard is prepared by the analyst by combining compatible elements at a concentration equivalent to the midpoint of their respective calibration curves.

At least once daily, the reagent blank must contain all the reagents and in the same volumes as used in the processing of the samples. The reagent blank must be carried through the complete procedure and contain the same acid concentration in the final solution as the sample solution used for analysis.

The quality control sample should be prepared in the same acid matrix as the calibration standards at a concentration near 1 mg/L and in accordance with the instructions provided by the supplier.

The lab analyzes an appropriate instrument check standard containing the elements of interest at a frequency of 10%. This check standard is used to determine instrument drift.

The calibration blank is run at a frequency of 10%. The result should be within the established control limits of two standard deviations of the three results. If the average is not within the control limit, terminate the analysis, correct the problem and recalibrate the instrument.

A quality control spike and duplicate spike is run on every job for Engineering Science. A known concentration of a specific parameter is added to an aliquot of sample. The spikes and duplicate spike recoveries measure the lab's ongoing accuracy.

A quality control sample from an outside source must first be used for the initial certification of the calibration standards. A fresh dilution of this sample shall be analyzed every week thereafter to monitor their stability. If the results are not within $\pm 5\%$ of the true value listed for the control sample, prepare a new calibration standard and recalibrate the instrument. If this does not correct the problem, prepare a new stock standard and a new calibration standard and repeat the calibration.

The ICAP runs (ERA) Environmental Resource Associates calibration standards as a daily routine. The ERA certified standards encompasses up to 1,000 ppb's and up to 10,000 ppb's for some metals. Percent recovery is calculated daily with these standards. The percent recovery is formulated to adjust analytical results and therefore yield more precise results.

The (APG) Analytical Products Group. Inc. has recently developed a P.E.T. program (Proficiency Environmental Testing). The Metals Lab will be receiving (starting 7-1-86) blind P.E. samples for analysis. These outside services will strengthen what is already good laboratory practices by confirming externally:

- 1) True values
- 2) Actual means (our lab and other participating labs)
- 3) Standard Deviations of participating labs
- 4) Average percent recovery
- 5) Our lab's deviation from the mean.

INTERNATIONAL TECHNOLOGY

Guy Sylvester QA/QC Coordinator



ANALYTICAL SERVICES

June 24, 1986

Engineering Science 57 Executive Park South, N.E. Suite 590 Atlanta, GA 30329

Attn: Mark Guthrie

Re: ES Purchase Order 56394

Dear Mr. Guthrie:

A number of samples which were analyzed by SW 8010 Method under your P.O. #56394 show substantial concentrations of dichloromethane. At the time these samples were being analyzed, other work being done in the laboratory involved the use of dichloromethane. We believe the dichloromethane concentrations reported for these samples represent laboratory air contamination and should not be considered as being part of the samples. Laboratory procedures have been changed to minimize dichloromethane contamination in the future. The affected samples are listed below.

	Sample	Number
--	--------	--------

2-PWD2-SB2-SS2-2.5-ITC
2-PWD2-SB2-SS5-10-ITC
2-P\D2-SB2-SS10-30-ITC
2-PWD2-SB2-SS14-50-ITC
2-PWD2-SB3-SS2-2.5-ITC
2-PWD2-SB3-SS5-10-ITC
2-PWD2-SB3-SS10-30-ITC
2-PWD2-SB3-SS14-50-ITC
18-ADA2-SB1-SS5-10-ITC
18-ADA2-SB1-SS8-20-ITC
2-PWD2-SB5-SS5-10-ITC
2-PWD2-SB5-SS10-30-ITC

2-PWD2-SB5-SS14-50-ITC

ITAS Job Number	ES Sample Number
35288	4-VWT5-SB1-SS3-5-ITC
	4-VWT5-SB1-SS5-10-ITC
	4-VWT5-SB1-SS10-30-ITC
	4-VWT5-SB1-SS14-50-ITC
35303	4-VWT5-SB2-SS14-50-ITC
	4-VWT5-SB2-SS10-30-ITC
	4-VWT5-SB2-SS5-10-ITC
35393	2-PWD2-SB4-SS2-2.5-ITC
	2-PWD2-SB4-SS5-10-ITC
	2-PWD2-SB4-SS10-30-ITC
	2-PWD2-SB4-SS14-50-ITC
35812	5-AFTC-SB2-SS5-10-ITC
	5-AFTC-SB2-SS10-30-ITC
	5-AFTC-SB2-SS14-50-ITC
35328	6-OFTC-SB1-SS2-2.5-ITC
	6-OFTC-SB1-SS5-10-ITC
	6-OFTC-SB1-SS10-30-ITC
	6-0FTC-SB1-SS14-50-ITC
	7-ERA2-SB1-SS5-10-ITC
	7-ERA2-SB1-SS10-30-ITC
	7-ERA2-SB1-SS14-50-ITC

Please call if you have any questions concerning this matter.

INTERNATIONAL TECHNOLOGY

Joiene Cooper | Assistant Q/A Coordinator



20

ANALYTICAL SERVICES



17605 Fabrica Way • Cerritos, California 90701 • 213-921 9831 - 714-523-9280

CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006

Dat⊬

September 29, 1986

Attn: Dennis R. Kasper

Page 1 of 5

January 7, 1985

56394

35250/lac

REVISED REPORT

Seven (7) soil samples.

Sample	Date	Time
17-NFTC-SB1-SS10-30-ITC	12-05-85	1500
17-NFTC-SB1-SS5-10-ITC	12-05-85	1500
17-NFTC-SB1-S15-10-ITC	12-05-85	1500
22-ERAT-SB2-SS4-10-ITC	12-05-85	1300
22-ERAT-SB1-SS4-10-ITC	12-05-85	0900
17-NFTC-SB2-SS2-2.5-ITC	12-06-85	0900
5-AFTC-SB1-SS2-2.5-ITC	12-06-85	1200

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were extracted according to EPA Method 3550 and then analyzed for total recoverable oil and grease by EPA Method 413.2. The results are listed on the following page.

Data for Quality Control Report 8020-5 can be found in IT Jcb #35288. Data for Quality Control Report 8010-5 can be found in IT Job #35303.

William F. Face William P. Fassinger

Laboratory Director

Sample: AF Plant 42 IRP-II ES Job 56394 Date of Analysis: 12/13/85

Sample	Total Oil ano Grease(ug/g)
17-NFTC-SB1-SS10-30'-ITC	2
17-NFTC-SB1-SS5-10'-ITC	ND<2
17-NFTC-SB1-S15-10'-ITC	ND<2
22-ERAT-SB2-SS4-10'-ITC	ND<2
22-ERAT-SB1-SS4-10'-ITC	4
17-NFTC-SB2-SS2-2.5'-ITC	ND<2
5-AFTC-SB1-SS2-2.5'-ITC	11,040
17-NFTC-SB1-SS10-30'-ITC Duplicate	3
17-NFTC-SB1-SS10-30'-ITC Spike	31
Spike Concentration	27

Percent Recovery: 106%

Relative Percent Difference: 40.0

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Engineering Science Page 3

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample Nc	35250-2
Client	Field Sample No.	5-AFTC-SB1-SS2-2.5-ITC
Project AF Plant 42 IRP-II	Date Collected _	12-6-85
Client No.	Date Received _	12-7-85
Laboratory Supervisor Approval:	Date Analyzed _	12-09-85
	QC Report No	8010-5
Sample Matrix:		
/ / Water (ug/L)	Dilution Factor	N/A
'Y / Soil (ug/g)	*Moisture	
/_ / Other		
Polike Source		

	Concentration		Retenti			
Compauni	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
<u>Benzyl chloride</u>	0.010	ND<0.010				
Pis(2-Chlorcethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010_				
Promodichloromethane	0.010	ND<0.010				
Bromeform	0.010	ND<0.010				
Bromomethana	0.010	ND<0.010				
Carbon tetrachionide	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chlorel	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chloroheyane	0.010	ND<0.010				
<u>p-Chloroethyl vinyl ether</u>	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chionomethyl methyl ether	0.010	ND<0.010				
Chionotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

5-AFTC-SB1-SS2-2.5-ITC

	Co	ncentratio	n	Detenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010			- <i></i>	
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
1,1,1-Trichloroetnane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyî chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394	Lab Sample No	35250-2
Client	Field Sample No.	5-AFTC-SB1-SS2-2.5-ITC
Project AF Plant 42 IRP-11	Date Collected _	12-6-85
Client No.	Date Received	12-7-85
Laporatory Supervisor Approval:	Date Analyzed	12-9-85
	QC Report No.	8020-5
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	¢ 1:100
$\frac{X}{X}$ / Soil (ug/g)	*Moisture	
/_/ Otner		
Spike Source		

	Co	ncentratio	n	Retenti	Retention Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.250	ND<0.250	ND<0.250			
Cnloropenzene			ND<0.250			*
1,2-Dichloropenzene			ND<0.250			*
1,3-Dichloropenzene			ND<0.250			*
1,4-Dichlaropenzene			ND<0.250			*
Ethyl benzene	0.250	4.9	1.7	7.48	3.03	
Toluene	0.250	10.0	9.4	4.90	2.1	С
Xylenes (Dimethyl benzene)	0.250	48.0	91	7.92	3.2	C
				8.12		
				8.75		
	į					

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

- * See Halogenated Volatile Organics report sneets.
- ¢ Large dilution due to matrix effects and for quantitation purposes.
- C Confirm on second column.



ANALYTICAL **SERVICES**

176 F F BH 19 & C + C + H 1 C TB + 46 B B(701 • 613 901 94) + C 744 669 901



CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538

October 10, 1986

Arcadia, CA 91006

Attn: Dennis R. Kasper

Page 1 of 18

December 11, 1985 56394

Calv

35288/lac

REVISED REPORT

Four (4) soil samples.

Sample	Date	<u>Time</u>
4-VWT5-S81-SS3-5-ITC	12-09-85	0900
4-VWT5-SB1-SS5-10-ITC	12-09-85	0900
4-VWT5-SB1-SS10-30-ITC	12-09-85	0900
4-VWT5-SB1-SS14-50-ITC	12-10-85	0900

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were digested with acid according to EPA Method 3050 and analyzed by AAS and ICP. The results are reported as Total Micrograms per gram and are listed in Table I. The Quality Control Data is listed in Table II.

The samples were also extracted according to EPA Method 3550 and then analyzed for total recoverable oil and grease by EPA Method 413.2. The results are listed in Table III and the Quality Control Data is listed in Table IV.

Wellen F. Faconge William P. Fassinger

Chemist

Laboratory Director

Engineering Science O. R. Kasper

October 10, 1986 JN: 35288 - Page 2

Table I

		Micrograms/gram	allis/grall	
	4-VWT5-SB1- SS3-5-IIC	4-VWT5-SB1- SS5-10-11C	4-VWT5-SB1- SS10-30-ITC	4-VWT5-SB1- SS14-50-ITC
Arsenic	ND<0.5	2.6	2.6	2.7
Barium	82	80	49	37
Cadmium	0.9	1.9	1.6	1.1
Total chromium	25	24	30	15
Lead	24	16	8	6
Mercury	0.02	0.03	ND<0.01	ND<0.01
Selenium	0.26	0.28	0.45	0.23
Silver	ND<0.3	ND<0.3	ND<0.3	ND<0,3

Table II

Date Analyzed: 12-16-85

Quality Control Data

	Microgi	Micrograms/gram		Micrograms/gram	am	
	4-VWT5-SB1- SS3-5'-ITC	4-VMT5-SB1- SS3-5'-ITC DUD	Relative Percent Difference	4-VWT5-SB1- SS3-5'-ITC Spike	Spike	Percent Recovery
Arsenic	ND<0.5	ND<0.5	;	2.8	0.95	240
Barium	82	78	52	210	47	270
Cadmium	0.9	2.5	94	5.9	4.7	106
Total chromium	25	25	0	36	9.5	116
Lead	24	16	40	57	47	70
Mercury	0.02	0.02	0	9.6	9.5	10.1
Selenium	0.26	0.16	48	0.17	0.095	0
Silver	ND<0.3	ND<0.3	;	3,5	47	7

Date Analyzed: 12-16-85

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Table III

	Total oil and grease
	Micrograms/gram
4-VWT5-SB1-SS3-5'-ITC	350
4-VWT5-SB1-SS5-10'-ITC	6
4-VWT5-SB1-SS10-30'-ITC	ND<2
4-VWT5-SB1-SS14-50'-ITC	ND<2

Table IV Quality Control Data

	Total oil and grease
	Micrograms/gram
4-VWT5-SB1-SS14-50'-ITC	ND<2
4-VWT5-SB1-SS14-50'-ITC Duplicate	ND<2
Relative Percent Difference: 0	
4-VWT5-SB1-SS14-50'-ITC Spike	16
Spike Amount	15
Percent Recovery: 94	
Date Analyzed: 12-30-85	

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

Engineering Science Page 4

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35288014	
Client	Field Sample No.	4-VWT5-SB1-SS3-5'-IT0	_
Project AF Plant 42	Date Collected _	12-9-85	
Client No	Date Received _	12-11-85	
Laboratory Supervisor Approval:	Date Analyzed _	12-18-85	
	QC Report No	8010-5	_
Sample Matrix:			
/ Water (ug/L)	Dilution Factor	N,′A	
<u>/K</u> //Soi [*] (ug/g)	*Moisture		ą.
<u>/</u> / Other			
Spike Source			_

		oncentrati		Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Note:
Berzyl chicride	0.010	ND<0.010				
3is(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chlcnaisopropy1)ether	0.010	ND<0.010				
Brorobenzene	0.010	ND<0.010				
Bromodichloromethare	0.010	ND<0.010				
Bramaform	0.010	ND<0.010				
Enomenethane	0.010	ND<0.010				
<u>Carbon tetrachloride</u>	0.010	ND<0.010				
<u>Chlonoscetaldehyde</u>	0.010	ND<0.010				
Ohlonal	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.C10	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				-
Chloromethyl methyl ether	0.010	ND<0.010				
Chlanataluene	0.010	ND<0.010				
Dibromochlongmethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample Number: 4-VWT5-SB1-SS3-5'-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.104		5.7		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyî chloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

 ${\tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample No	35288013
Field Sample No.	4-VWT5-SB1-SS5-10'-ITC
Date Collected	12-9-85
Date Received	12-11-85
Date Analyzed	12-18-85
QC Report No	8010-5
Dilution Factor _	N/A
*Moisture	%
	· · · · · · · · · · · · · · · · · · ·
	Field Sample No. Date Collected Date Received Date Analyzed QC Report No Dilution Factor

	С	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Eromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carpon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010	 -			
Chlorobenene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chioronexane	0.010	ND<0.010				
2-Chioroethyl vinyl ether	0.010	ND<0.010				<u> </u>
Chlorsmethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample Number: 4-VWT5-SB1-SS5-10'-ITC

	Co	ncentratio	n	Retenti	on Time	
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Motes
Dibromomethane	0.010	ND<0.010				······································
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.058		5.7		
1,2-Dichleropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				·
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichlorcethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35288022
Client		4-VWT5-SB1-SS10-30'-ITG
Project AF Plant 40	Date Collected _	12-9-85
Client No.	Date Received _	12-11-85
Laboratory Supervisor Approval:	Date Analyzed _	12-18-85
	QC Report No.	8010-5
Sample Matrix:		
<pre> / Water (ug /L)</pre>	Dilution Factor	N/A
<u> </u>	*Moisture	9
<u>/</u>		
Spike Source		

	Concentration Retention Time		Concentration			Concentration Retention T		Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	column 2	Notes				
Benzyl chloride	0.010	ND<0.010								
Bis(2-Chloroethoxy)methane	0.010	ND<0.010								
Bis(2-chloroisopropyl)ether	0.010	ND<0.010								
Bromobenzene	0.010	ND<0.010								
Bromodichichemethane	0.010	ND<0.010								
Bromoform	0.010	ND<0.010								
Bromomethane	0.010	ND<0.010								
Carbon tetrachloride	0.010	ND<0.010								
Chlorcacetaldehyde	0.010	ND<0.010								
Chlonal	0.010	ND<0.010		+						
0hlonobenzere	0.010	ND<0.010	*							
Chloroethane	0.010	ND<0.010				, ,,,,				
Cilenaform	0.010	ND<0.010								
1-Ch ¹ orchexane	0.010	ND<0.010								
<u>Cachioncethy</u> vin, bethen	0.010	ND<0.010								
Cnloromethane	0.010	ND<0.010								
Chloromethy' mathy' ether	0.010	ND<0.010								
Chlonotoluene	0.010	ND<0.010								
1 thatrohionomethere	0.010	ND<0.010								

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample Number: 4-VWT5-SB1-SS10-30'-ITC

	Co	Concentration			Retention Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichlorcethane	0.010	ND<0.010				
1,1-Dichloroetnylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dicnloromethane	0.010	ND<0.010			 -	
1,2-Dichloropropane	0.010	ND<0.010	~			
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
TrionToropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample No	35288012
Field Sample No.	4-VWT5-SB1-SS14-50'-ITC
Date Collected _	12-10-85
Date Received	12-11-85
Date Analyzed _	12-18-85
QC Report No	8010-5
Dilution Factor	N/A
*Moisture	
_	Field Sample No. Date Collected Date Received Date Analyzed QC Report No. Dilution Factor

	Concentration			Retenti	on Time]
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)etner	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Cnloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample Number: 4-VWT5-SB1-SS14-50'-ITC

	Co	Concentration			on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	NCTES.
Dibromomethane	0.010	ND<0.010				
Dicnlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.055		5.7		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Tricnlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

^{▼ -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

Lap Sample Nos	. 4VWT5-SB1-SS5-10	'-ITC QC Repo	rt No	8020-5	·
Duplicates 3	35288-7, 35288-8	Date An	alyzed	12-18-85	
Spike3	35288-9	Laborat	ory Superv	isor Approval:	
Sample Matrix:					
// Water ((ug/L)	Dilutio	n Factor _	N/A	
<u>/X</u> / Soil ((ug/Kg)	*Moistur	e		a
/_/ Other _				 	
Spike Source _					
			- 1		
1	<u> </u>	1	1	!	

	Du	plicat	es	S	pike R	ecovery		
Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
ND<	ND<	ND<						
0.005	0.005	0.005		0.064	0.005	0.060	94	
ND<	ND<	ND<						
0.005	0.005	0.005		0.056	0.005	0.045	80	
ND<	ND<	ND<						
0.005	0.005	0.005		0.103	0.005	0.077	75	
ND<	ND<	ND<						
0.005	0.005	0.005		0.102	0.005	0.079	77	
ND<	ND<	ND<						
0.005	0.005	0.005		0.088	0.005	0.065	75	
ND<	ND<	ND<						
0.005	0.005	0.005		0.054	0.005	0.045	83	
ND<	ND<	ND<						
0.005	0.005	0.005		0.056	0.005	0.032	57	
ND<	ND<	>GN						
0.005	0.005	0.005			0.005			
		Ì		Į į				
	ND< 0.005 ND< 0.005 ND< 0.005 ND< 0.005 ND< 0.005 ND< 0.005	Blank C1 ND< ND< 0.005 0.005 ND< 0.005 0.005 ND< ND< 0.005 0.005	Blank	ND< ND< ND< ND< O.005 0.005 ND< ND< ND< ND< ND< O.005 0.005 ND< ND< ND< ND< ND< O.005 0.005	Blank C1 C2 RPD SA ND ND ND 0.064 ND 0.005 0.005 0.064 ND ND ND 0.005 0.005 0.056 ND ND ND 0.005 0.005 0.103 ND ND ND ND 0.102 ND ND ND 0.102 ND ND ND 0.005 ND ND ND 0.088 ND ND ND 0.054 ND ND ND 0.054 ND ND ND 0.056 ND ND 0.056 0.056 ND ND ND 0.056 ND ND 0.056 0.056 ND ND 0.056 0.056	Blank C1 C2 RPD SA SR ND ND ND 0.005 0.0	Blank C1 C2 RPD SA SR SSR ND ND ND 0.005 0.005 0.060 0.005 0.060 ND ND ND 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.007 0.005 0.005 0.077 0.102 0.005 0.079 ND ND ND ND 0.005	Blank C1 C2 RPD SA SR SSR PR ND ND ND 0.005 0.005 0.005 0.064 0.005 0.060 94 ND ND ND 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.007 75 ND ND ND ND 0.005 0.005 0.079 77 ND ND ND ND 0.005 0.005 0.005 75 ND ND ND ND 0.005

 $[\]star$ - If % moisture is reported, results are presented on a dry-weight basis.

 \mbox{ND} - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Toluene

Xylenes (Dimethyl benzene)

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394					35288-5	
Client					4-VWT5-SB1-SS14-50'ITC	
Project AF Plant 42					12-10-85	
Client No.					12-11-85	
Laboratory Supervisor App					12-18-85	
• • • • • • • • • • • • • • • • • • • •			C Report N			
Sample Matrix:			•			
/ / Water (ug/L)		D	ilution Fa	ctor	N/A	
/ Other						
Spike Source						
<u></u>				Τ		
	Co	ncentratio	ın	Retenti	on Time	
Compound		Column 1			Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dicnloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene		ND<0.005				

ND<0.005

ND<0.005

0.005

0.005

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES JOD NO56394	Lab Sample No.	35288-4	
Client	Field Sample No. 4	-VWT5-SB1-SS3-5'-ITC	
Project <u>AF Plant 42</u>	Date Collectea	12-9-85	
Client No	Date Received	12-11-85	
Laboratory Supervisor Approval:	Date Analyzed	12-18-85	
	QC Report No.	8020-5	
Sample Matrix:			
<u>/</u> / Water (ug/L)	Dilution Factor	N/A	_
<u>/X</u> / Soil (ug/g)	*Moisture		<u>۾</u>
/_/ Other			_
Spike Source			

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichlorobenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichlorobenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394	Lab Sample No	35288-6
Client	Field Sample No.	4-VwT5-SB1-SS10-30'-ITC
Project AF Plant 42	Date Collected	12-9-85
Client No.	Date Received	12-11-85
Laboratory Supervisor Approval:	Date Analyzed	12-18-85
	QC Report No	8020-5
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor _	N/A
/X / Soil (ug/g)	*Moisture	9
// Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

^{* -} If % moisture is reported, results are p. sented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

E3 JUD NO		L	au Sample	NO	35260-1		
Client		Field Sample No. 4-VWT5-SB1-SS5-10'ITC					
Project AF Plant 42							
Client No.							
Laboratory Supervisor Approva	aì:						
	-1						
Sample Matrix:							
<u>/</u> / Water (ug/L)		D	ilution Fa	ictor	N/A		
<u>/X</u> / Soil (ug/g)		*M	loisture _			%	
// Otner							
Spike Source							
	Concentration			Retention Time			
Compound	Det Lim	Column 1	Column 2		Column 2	Notes	
Benzene	0.005	ND<0.005					
Chloropenzene	0.005	ND<0.005					
1,2-Dichlorobenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichlorobenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					
<u> </u>	 	 	 	 	 		

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ES Job No. <u>56394</u>	Lab Sample No	35288-8 Duplicate
Client	Field Sample No. <u>4</u>	-VWT5-SB1-SS5-10'-ITC
Project AF Plant 42	Date Collected	12-9-85
Client No.	Date Received	12-11-85
Laboratory Supervisor Approval:	Date Analyzed	12-18-85
	QC Report No.	8020-5
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	%
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

 $ND \sim This$ compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Jon No. ES204		1	ob Comple	No	25200_0 €	nika	
ES Job No. 55394 Client		Lab Sample No. 35288-9 Field Sample No. 4-VWT5-SB1-SS					
Project AF Plant 42		• • • • • • • • • • • • • • • • • • • •					
Client No.		D	ate Receiv	ed	12-11-85		
Laboratory Supervisor Appro		D	ate Analyz	ed	12-18-85		
		Q	C Report N	0.	8020-5	. 	
Sample Matrix:/ Water (ug/L) _/X_/ Soil (ug/g) _/_/ Other					N/A		
Spike Source							
	Со	ncentratio	n	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Panzana	0.005	0.060		2.6			

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	0.060		2.6		······································
Cnloropenzene	0.005	0.047		8.1		
1,2-Dichloropenzene	0.005	0.077		14.7		
1,3-Dichloropenzene	0.005	0.079		13.1		
1,4-Dichlorobenzene	0.005	0.066		12.9		,
Ethyl benzene	0.005	0.045		7.5		
Toluene	0.005	0.032		4.9		
Xylenes (Dimethyl benzene)	0.005					

 $[\]star$ - If % moisture is reported, results are presented on a dry-weight pasis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.



ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

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Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 October 7, 1986

Attn: Mark Guthrie

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December 12, 1985

56394

35303/lac

CORRECTED REVISED REPORT

Three (3) soil samples.

Sample	<u>Date</u>	Time
4-VWT5-SB2-SS14-50-ITC	12-10-85	1500
4-VWT5-SB2-SS10-30-ITC	12-10-85	1200
4-VWT5-SB2-SS5-10-ITC	12-10-85	1200

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were digested with acid according to EPA Method 3050 and analyzed by Atomic Absorption Spectroscopy and Inductively Coupled Plasma. The results are reported as Total Micrograms per Gram and are listed in Table I. The Quality Control Data is listed in Table II.

Also, the samples were extracted according to EPA Method 3550 and then analyzed for total recoverable oil and grease by EPA Method 413.2. The results are listed in Table III and the Quality Control Data is listed in Table IV.

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William P. Fassinger

Chemist

William F. Farang

Richard L. Merrell Laboratory Director

Engineering Science O. R. Kasper

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Table I

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	(()	L	
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	4-VWT5-SB2- SS14-50'-ITC	4-VWT5-SB2- SS10-30'-ITC	4-VWT5-SB2- SS5-10'-ITC
Arsenic	2.7	2.5	2.7
Barium	46	68	40
Cadmium	1.2	2.0	0.9
Total chromium	18	10	14
Lead	6	11	7
Mercury	ND<0.01	0.01	ND<0.01
Selenium	ND<0.05	ND<0.05	ND<0.05
Silver	ND<0.3	ND<0.3	ND<0.3

Date Analyzed: 12-16-85

Table II

Quality Control Data

	Microg	Micrograms/gram		Micrograms/gram	E	
	4-VWT5-SB2- SS14-50'-ITC	4-VWT5-SB2- SS14-50'-ITC DUP	Relative Percent Difference	4-VWT5-SB2- SS14-50'-ITC Spike	Spike Amount	Percent <u>Recovery</u>
Arsenic	2.7	2.4	12	2.8	0.97	10
cadmium Cadmium		1.4	4 15	93 0.99	49.0	9 0
Total chromium	18	16	12	31	9.7	134
Lead	თ	Ø	0	41	49	86
Mercury	ND<0.01	ND<0.01	1 2	12	9.7	124
Selenium	ND<0.05	ND<0.05	[1	ND<0.05	0.097	1 1
Silver	ND<0.3	ND<0.3	1 1	ND<0.3	49	0

Date Analyzed: 12-16-85

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Table III

	Total oil and grease
	Micrograms/gram
4-VWT5-SB2-SS14-50'-ITC	6
4-VWT5-SB2-SS10-30'-ITC	ND<2
4-VWT5-SB2-SS5-10'-ITC	12

Table IV

Quality Control Data

	Total oil and grease
	Micrograms/gram
4-VWT5-SB2-SS10-30'-ITC	ND<2
4-VWT5-SB2-SS10-30'-ITC Duplicate	ND<2
Relative Percent Difference: 0	
4-VWT5-SB2-SS10-30'-ITC Spike	46
Spike Amount	39
Percent Recovery: 118	
Date Analyzed: 01-02-86	

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 4-VWT5-SB2-SS14-50'-ITC	QC Report No. 8010-5
Duplicates 35303-5, 35303-6	Date Analyzed <u>12-13-85</u>
Spike <u>35303-7</u>	Laboratory Supervisor Approval:
Sample Matrix:	
// Water (ug/L)	Dilution Factor N/A
$\frac{/X}{}$ / Soil (ug/g)	*Moisture%
<u>/ /</u> Other	
Spake Source	

		Du	plicat			Snike	Recover	· \ /	
Compound	Blank	01	C2	RPD	SA	SR	SSR	FR	Notes
Benzyl chloride	ŊD ₆₁₀	ND δ10	₩ ^D б ₁ 0	-		<0.010			
Bis(2-Chlongethoxy)methane	შ ^ე გ ₁₀	₿ ^ი გე	ND δ10	-		<0.010			
Sis(2-ohlonoisopropyl)ethen	8 <u>9618</u>	ტ <u>ი</u> გქ8	8º518	-		<0.010			
Bromobenzene	θ.δ ₁₀	₩ ^D δ10				<0.010			
<u>Bramadichlonomethane</u>	θ [.]	₩ ^D δ10			0.050	<0.010	0.053	106	
Bromeform	ND. 610	ND 6			0.050	<0.010	0.070	140	
Bromsmethane	8 ^D . 610	₩ ^D δ1q				<0.010			
Carbon tetrachloride	80.610	ŊD.δ1d	8ºº 61d		0.050	<0.010	0.041	82	
Chloroacetaldehyde	შ ^ი გენ	შ ^ე გეძ				<0.010			
Chloral	8 ^D 610	₩ ^D δ1d				<0.010			
Chlorobenzene	8'0510	Ŋე _{61d}			0.050	<0.010	0.040	80	
Chionoethane	გე _. გე	<u>₩</u> 0.61d				<0.010			
<u>Ohlanafann</u>	80.610	ND .610			0.050	<0.01	0.043	_86	
1-Chlonohekane	ð ^D . ó10	ŊD.δ10				<0.013			
2-Chloroethyl vinyl ether	β 2610	8 ^D .δ10				<0.010			
Chioromethane	8 ^D .δ10	ND δ10				<0.01			
Chloromethyl methyl ether	80.610	ტე ₆₁₀				<0.010			
Chlorotoluena	წ.ბ <u>1</u> 0	შ ^ი გე				<0.010			
Dipromochionomethane	80.610	გე ₆₁₀	8 ^D δ19		0.178	<0.010	0.188	106	

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

4-VWT5-SB2-SS14-50'-ITC

		 							No. and the sections
		Duj	plicate	?S		Spike Re	covery		•
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<	l	!	1		١	Ĭ
Dibromomethane	0.010		0.010			<0.010			!
Dichlorodifluoromethane	ŊD. 610	80.δ10				<0.010			
1,1-Dichloroethane	NO 6.δ10				0.050	<0.010	0.041	82	
1,2-Dichloroethane	წეგ10	8 ^D δ10	₩ ^D . б10	-	0.050	<0.010	0.051	102	
1,1-Dichloroethylene	ŊD ₆₁₀	θ ^D .δ10	 		0.050	<0.010	0.037	74	
trans-1,2-dichloroethylene	ND δ10				0.050	<0.010	0.046	92	
Dichloromethane	θ [.] δ10	ND δ10			0.050	<0.010	0.059	118	
1,2-Dichloropropane	^{ზე} გეი	ND δ10	შენ10		0.050	<0.010	0.042	84	
1,3-Dichloropropylene	^{NO} δ10	ND δ10			0.178	<0.010	0.188	106	
1,1,2,2-Tetrachloroethane	₩ ^D б10	ND δ10	ND δ10		0.100	<0.010	0.092	92	1
1,1,1,2-Tetrachloroethane	ND δ10		θ.ό10			<0.010			
Tetrachloroethylene	θ.δ ₁₀	θ. δ10	ND გ₁0		0.100	<0.010	0.092	92	
1,1,1-Trichloroethane	ND δ10	θ. ό10	θ.δ10	-	0.050	<0.010	0.053	106	
1,1,2-Trichloroethane	^{ტე} გ ₁₀		8 ⁰ .6₁0		0.178	<0.010	0.188	106	
Trichloroetnylene	ND δ ₁₀	80810	θ.δ10	_	0.050	<0.010	0.043	86	
Trichlorofluoromethane	₩D 0.010	ND δ10	ND δ.δ1c	_		<0.010			
Trichloropropane	ND გეი	80.610	NDδ10	-		<0.010			
Vinyl chloride	₩ ^ე .610		θ ^D .δ10			<0.010			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No	35303-3
Client	Field Sample No.	4-VWT5-SB2-SS5-10'-ITC
Project AF Plant 42	Date Collected _	12-10-85
Client No.	Date Received _	12-12-85
Laboratory Supervisor Approval:	Date Analyzed _	12-13-85
	QC Report No	8010-5
Sample Matrix:		
// Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	۶
/_/ Other		
Spike Source		

		Concentrati		Retent		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND:0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotaluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

4-VWT5-SE2-SS5-101-1

	·			4-VWT5-SB2-SS5-10		
	Co	ncentratio	r	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	<u>Notes</u>
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylere	0.010	ND<0.010			<u></u> j	
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	C.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyï cnloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35303-4
Client	Field Sample Nc.	4-VWT5-SB2-SS10-301-170
Fraject AF Plant 42	Date Collected _	12-10-85
Client No.	Date Received _	12-12-85
Ustonatory Supervisor Approval:	Date Analyzed _	12-13-85
	QC Report No.	8010-5
Sample Metrik:		
/ / Water (ug L)	Dilution Factor	N/A
/X_^ (Sai? (ug 'g)	*Moisture	
/ / Other		
Spike Scurce		

	C	Concentration			on Time	
Compound	Det Lim	Column 1	Column 2	Column I	Column 2	Notes
Benayl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroiscpropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	C.010	ND<0.010				
Bromeform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohevane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethare	0.010	ND<0.01C		~ = ~		
Chloromethyl methyl etner	0.010	ND<0.010				
Chionotoluene	0.010	ND<0.010				
Directorionsmethane	0.010	ND<0.010				

4-VWT5-SB2-SS10-301-TTE

4-VWT5-SB2-S						
		ncentratio	····		on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				·
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dionlorgethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.012		5.8		
1,2-Dichloropropane	0.010	ND<0.010				·
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1.1.1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35303-5
Client		4-VWT5-SB2-SS14-501-110
Project AF Plant 42	Date Collected _	12-10-85
original No.	Date Received _	
usconstany Supervisor Approval:	Date Analyzed _	12-13-95
	QC Report No	8010-5
Sample Mathin:		
/ Water (ug/L)	Dilution Factor	N ´A
X/ Soft (ug.g)	*Moisture	<u></u>
/_/ Other		
Spike Source		

	Concentration Det 1:m [Column 2		Retenti			
Compound	Det Lim	Column 1	Column 2	Retenti Column 1	jöstuliit s	Notes
Serzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethaxy)methane	0.010	ND<0.010				
Bis(2-chlancisopropyl)ether	0.010	ND<0.010				
Bhomobenzene	0.010	ND<0.010				
Bromodich onomethane	0.010	ND<0.010				
Bramaform	0.010	ND<0.010				
Snomomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chlora!	0.010	ND<0.010				
Chlarobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromoch oromethane	0.010	ND<0.010				

4-VWT5-SB2-SS14-501-IT0

						814-50'-IT
		ncentratio			on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010			i	
Dichloromethane	0.010	ND<0.010				
1,2-Dicriloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroetnane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Intchlorofluoromethane	0.010	ND<0.010				
Trichloropropare	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No.	35303-6 DU	Ρ.
C'ient		4-VWT5-SB2-SS14-	
Project AF Plant 42	Date Collected	12-10-85	
Client No.		12-12-85	
Laboratory Supervisor Approval:		12-13-85	
		8010-5	
Sample Matrix:			
/ Water (ug/l)	Dilution Factor	N/A	
<u>/X_/_Soil_(ug/g)</u>	*Moisture		٠,
/ Cthen			
Spike Source			

	Concentration Det Lim [Column 1 Column 2 Column 3 Column 3			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(C-chloroisconcbyl)ether	0.010	ND<0.010				
Sromobenzene	0.010	ND<0.010				
Encapdichloromethane	0.010	ND<0.010				-
Bromsform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				·
Carbon tetrachloride	0.010	ND<0.010				
Chlonoacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chionotolyene	0.010	ND<0.010				
Dibnomochloromethame	0.010	ND<0.010				

4-VWT5-SB2-SS14-50'-ITC DUP.

		SB2-SS14-5	0 .1.0 03.			
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Motes
Dipromomethane	0.010	ND<0.010				**************************************
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroetnane	0.010	ND<0.010				
1,1-Dichioroethylene	0.010	ND<0.010				
trans-1,2-gichlorcethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichioropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichlorcethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloroppane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35303-7 SPI	IKE
Client	Field Sample No.		
Project AF Plant 42	Date Collected _	12-10-85	
Client No.	Date Received	12-12-85	
Laboratory Supervisor Approval:	Date Analyzed	12-13-85	
	QC Report No.	8010-5	
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		
<u>/</u> / Other			
Spike Sounce			

	Concentration		Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
<u>Snomodichlonomethace</u>	0.010	0.053		13.6		
Bromoform	0.010	0.070		19.0		
Bromomethane .	0.010	ND<0.010	** ** **			
Carbon tetrachloride	0.010	0.041		13.1		
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	0.040		23.6		
Chloroethane	0.010	ND<0.010				
Chicroform	0.010	0.043		10.8		
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethy' methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dipromochloromethane	0.010	0.188		16.3		

4-VWT5-SB2-SS14-50'-ITC SFIKE

	4-VW:5-582					
İ		Concentration			on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	0.041		9.5		
1,2-Dichloroethane	0.010	0.051		11.5		
1,1-Dichloroethylene	0.010	0.037		8.4		· · · · · · · · · · · · · · · · · · ·
trans-1,2-dichloroetnylene	0.010	0.046		10.3		
Dichloromethane	0.010	0.059		5.7		
1,2-Dichioropropane	0.010	0.042		14.9		
1,3-Dichloropropylene	0.010	0.188		16.3		
1,1,2,2-Tetrachioroethane	0.010	0.092		21.2		
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	0.092		21.2		
1,1,1-Trichloroethane	0.010	0.053		12.7		
1,1,2-Trichloroethane	0.010	0.188		16.3		
Trichloroethylene	0.010	0.043		15.7		
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

 $^{{\}tt NJ}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Jop No56394		Ł	ab Sample N	lc. 35	303-1	
Client					VWT5-SB2-SS1	
Project AF Plant 42		D	ate Collect	ed 12	?-10-85	
Client No.		D	ate Receive	ed 12	2-12-85	
Laboratory Supervisor Approv			ate Analyze	ed 12	2-13-85	
		Q	C Report No)	8020-5	
Sample Matrix:						
<pre>/ Water (ug/L)</pre>		D	ilution Fac	tor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture			%
/_/ Other						
Spike Source						
			n			
Compound	Det Lim	Column 1	Column 2	COlumn	1 Column 2	Notes

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

 \mathbf{Z}

ES Jop No. 56394			L	ab Sample	No.	3530	3-2		
Client		-		ield Samp	_				
Project AF Plant 42		_		ate Colle					
Client No.			D	ate Recei	ved _	12-1	2-85		
Laboratory Supervisor Approva	ì :		D	ate Analy	zed	12-1	3-85		
			Q	C Report	No		8020-5		-,- -,-
Sample Matrix:									
// Water (ug/L)			ם	ilution F	actor		N/A	 .	·-··
/X / Soil (ug/g)			*M	oisture _					۶
// Other				<u> </u>					······································
Spike Source			 · · · ·						
				 					
Compound	Dot I		ncentratio Column 1				on Time Column	2	Notes
Compound	Deci	- 1711	OO TONNI I	CO TOMET 2	2010		OC TUINIT	-	1 110 (63

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyî benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl penzene)	0.005	ND<0.005				
						· · · · · · · · · · · · · · · · · · ·

ES Job No. 56394	Lab Sample No	35303-3
Client		4-VWT5-SB2-SS14-50'-ITC
Project AF Piant 42	Date Collected _	12-10-85
Client No.	Date Received _	12-12-85
Laboratory Supervisor Approval:	Date Analyzed	12-13-85
	QC Report No	8020-5
Sample Matrix:		
∠ / Water (ug L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	
/_/ Other		
Spake Sounce		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-DionToropenzene	0.005	ND <c.005< td=""><td></td><td></td><td></td><td></td></c.005<>				
1,4-Dichlorobenzene	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				



ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 October 7, 1986

Attn: Mark Guthrie

Page 1 of 20

December 13, 1985

Job #56394

35328/lac

REVISED REPORT

Seven (7) soil samples.

Sample	Date	Time
6-OFTC-SB1-SS2-2.5-ITC	12-11-85	1200
6-OFTC-SB1-SS5-10-ITC	12-11-85	1200
6-OFTC-SB1-SS10-30-ITC	12-11-85	1200
6-OFTC-SB1-SS14-50-ITC	12-12-85	1600
7-ERA2-SB1-SS5-10-ITC	12-12-85	1200
7-ERA2-SB1-SS10-30-ITC	12-12-85	1200
7-ERA2-SB1-SS14-50-ITC	12-12-85	1200

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EFA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

Also, the samples were extracted according to EPA Method 3550 and then several were analyzed for total recoverable oil and grease by EPA Method 413.2 and the remaining were analyzed for total recoverable petroleum hydrocarbons by EPA Method 418.1 The results are listed in Taple I.

Data for Quality Control Report 8020-6 can be found with IT Job #35310.

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director Engineering Science Page 2 - Jop No. 35328

It is noted that a number of samples covered in this report snow substantial concentrations of dichloromethane. At the time these samples were being analyzed, other work being done in the laboratory involved the use of dichloromethane. We believe the dichloromethane concentrations reported for these samples represent laboratory air contamination and should not be considered as being part of the samples. Laboratory procedures have been changed to minimize dichloromethane contamination in the future.

Sample: AF Plant 42 IRP-IT ES Job 56394 Date of Analysis: 01/03/86

Sample	Total Oil and Grease(μg/g)
6-0FTC-SB1-SS2-2.5'-ITC	15,600
6-OFTC-SB1-SS5-10'-ITC	1,500
6-OFTC-SB1-SS10-30'-ITC	20
6-OFTC-SB1-SS14-50'-ITC	ND<2

Sample	Total Petroleum Hydrocarbons(μg/g)
7-ERA2-SB1-SS5-10'-ITC	ND<2
7-ERA2-SB1-SS10-30'-ITC	9,420
7-ERA2-SB1-SS14-50'-ITC	670
7-ERA2-SB1-SS5-10'-ITC Duplicate	2
7-ERA2-SB1-SS5-10'-ITC Spike	19
Spike Concentration	17

Percent Recovery: +100%

Relative Percent Differenc: N/A

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 6-OFTC SB-1 SS-14 50-ITC	QC Report No. <u>8010-7</u>
Duplicates 35326-18, 35328-19	Date Analyzed 12-18-85
Spike35328-21	Laboratory Supervisor Approval:
Sample Matrix:	
// Water (ug/L)	Dilution Factor N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture
/_/ Other	
Spike Source	

		Duplicates			Spike Recovery				
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Benzyl chloride	ND δ10	₩ ^D δ10	8 ⁰ .δ10	-		<0.010			
Bis(2-Chloroethoxy)methane	<u>80.610</u>	ND δ10	₩ ^D δ10	-		<0.01d			
Bis(2-chlorojsopropyl)ether	NP. 610	ND 610	80€10			<0.010			
Bromobenzere	₩ ^D δ10	^{β0} .δ10	8 <u>0.610</u>	-		<0.010			
Bromodichloromethane	80.δ10	⁰⁰ δ10	ND δ10		0.050	<0.010	0.043	86	
Bromoform	80.610	ND δ10	8º. 610		0.050	<0.010	0.058	116	
Bromomethane	90610	3º.610	θ ^D δ10			<0.010			
Carbon tetrachloride	NP 610	₩º. δ10	80.610		0.050	<0.010	0.038	76	
Chloroacetaldehyde	₩D.б10	8º.610	³⁰ δ10			<0.010			
Chloral	80510	^{θ0} .δ10	ND δ10	<u> - </u>		<0.010			
Chlonobenzene	θ ^D δ10	8.510	შ ^ე გე	<u> </u>	0.050	<0.010	0.038	76	
Chloroethane	8 ^D δ10	80.610	ND δ10			<0.010			
Chloroform	θ ^D δ10	ტეგ ₁₀	θ ⁰ δ10	<u> - </u>	0.050	<0.010	0.048	96	
1-Chlorohexane	80810	₩P.610	₩₽. 610			<0.010		<u> </u>	
2-Chloroethyl vinyl ether	<u>80610</u>	ŊD. δ10	8º610			<0.010			
Chloromethane	ND δ10	^θ .610	₩₽510			<0.010			
Chicromethyl methyl ether	8 ^D δ10	ND δ10	₩º. δ10			<0.010			
Chlorotoluene	8º610	ND 610	80.610			<0.010			
<u>Dibromochionometrane</u>	₩P. 610	ND 510	ŊD. δ10		0.178	<0.010	0.160	90	

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

6-OFTC-SB1-SS14-50-ITC

		Duplicates			-				
Compound	Blank	C1	C2	RPD	SA	Spike R SR	SSR	FR	Notes
Dipromomethane	ND< 0.010	ND< 0.010	ND< 0.010			<0.010			
Dichlorogifluoromethane	₩ ^D δ10	θ.δ10	₩D. 0.010			<0.010			
1,1-Dichloroethane	80. ó10	θ.δ ₁₀	₩ ^D δ10		0.050	<0.010	0.047	94	
1,2-Dichloroethane	θ.δ10	<u>წე</u> გე	₿ ^ი .გე		0.050	<0.010	0.050	100	
1,1-Dichloroethylene	80.610	θ ⁰ δ10	₩ ⁰ .δ1c		0.050	<0.010	0.031	62	
trans-1,2-dichloroethylene	80. 810	80.610	ზ ^ი გე		0.050	<0.010	0.040	80	
Dichloromethane	θ.δ ₁₀	9.9	2.9	109	0.050	6.4	θ.δ ₁₀		
1,2-Dichloropropane	80.610	θ.δ ₁₀	₩ ⁰ . ó10		0.050	<0.010	0.043	86	
1,3-Dichloropropylene	80.610	ND δ10	ND δ10		0.178	<0.010	0.160	90	
1,1,2,2-Tetrachloroethane	80. 0.010	θ.δ ₁₀	ტე _ნ ენე		0.100	<0.010	0.075	75	
1,1,1,2-Tetrachloroethane	θ ^D δ10	ND δ10	θ.δ ₁₀	<u>-</u> _		<0.010			
Tetrachloroethylene	80.810	θ ^D δ10	₩ ^D δ1c		0.100	<0.010	0.075	75	
1,1,1-Trichloroethane	θ. δ10	ტე ₆₁₀	NDδ10		0.050	<0.010	0.032	64	
1,1,2-Trichloroethane	80.610	₩D.б10	₩D. 0.010		0.178	<0.010	0.160	90	
Trichloroethylene	Ν ^D δ10	ND δ10	θ.δ10		0.050	<0.010	0.054	108	
Trichlorofluoromethane	80. d10	შ ^ი გე	შ ^ი . გე			<0.010			
Trichloropropane	შ ^ე გე	₩ ⁰ .δ10	8 ^D δ1c			<0.010			
Vinyl chloride	8º.б10	80.δ10	შ ^ი გენ10			<0.010			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394	Lab Sample No. 353	28-15
Client	Field Sample No. <u>6-0</u>	FTC-SB-1-SS-2-2.5' ITC
Project AF Plant 42	Date Collected 12-	11-85
Client No.	Date Received 12-	
Laboratory Supervisor Approval:	Date Analyzed <u>12-</u>	18-85
	QC Report No. 801	0-7
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/Kg)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carpon tetrachloride	0.010	ND<0.010				
Chloroacetaldenyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

6-OFTC SB-1 SS-2 2.5' ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dibromometnane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010					
1,1-Dichloroethane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	2.610		5.7			
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachloroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	0.190		15.8			
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35328-17	
Client	Field Sample No.	6-OFTC-SB1-SS1	0-30-170
Project AF Plant 42	Date Collected _	12-11-85	
Client No.	Date Received	12-13-85	<u> </u>
Laboratory Supervisor Approval:	Date Analyzed _	12-18-85	
<u></u>	QC Report No	8010-7	
Sample Matrix:			
/ / Water (ug/L)	Dilution Factor		
/X / Soil (ug/g)	*Moisture	· .	%
/_/ Other			
Spike Source			

0		oncentrati	on	Retenti Column I	on Time	Notes
Compound	Det Lim	Column 1	Column 2	COTUMN 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis-2-Chloroethoxy)methane	0.010	ND<0.010				
Bis-2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chlordethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chlorcethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

6-OFTC SB-1 SS-10 30' ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				·
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroetname	0.010	ND<0.010				*
1,2-Dicnloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				<u>. </u>
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	5.660		5.7		=
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				·
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachlorcethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichlorgethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.C10				
Trichlorofluoromethane	0.010	ND<0.010				
Trionloropropane	0.010	ND<0.010				
Vinyl chloriae	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394	Lab Sample No. <u>35328-16</u>
Client	Field Sample No. 6-0FTC-SB1-SS5-10-ITC
Project AF Plant 42	Date Collected 12-11-85
Client No.	Date Received 12-13-85
Laboratory Supervisor Approval:	Date Analyzed 12-18-85
Sample Matrix:	
// Water (ug/L)	Dilution Factor N/A
<u>/X</u> / Soil (ug/g)	*Moisture
/ Cther	
Spike Source	

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column I	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis-2-Chloroethoxy)methane	0.010	ND<0.010				-
Bis-2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
<u> Promomethane</u>	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

6-OFTC SB-1 SS-5 10' 171

	Со	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dibromomethane	0.010	ND<0.010					
Dichlorogifluoromethane	0.010	ND<0.010					
1,1-Dichlorcethane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	C.010	ND<0.010					
Dichloromethane	0.010	6.650		5.7			
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachloroethane	C.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetracnicroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Trichlorofluoromethane	0.010	ND<0.010					
Tricnloropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No	35328-18
Client	Field Sample No.	6-0FTC-SB1-SS14-50-ITC
Project AF Plant 42	Date Collected _	12-12-85
Client No.	Date Received _	12-13-85
Laboratory Supervisor Approval:	Date Analyzed _	12-18-85
	QC Report No.	8010-7
Sample Matrix:		
// Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retenti	-	
Compound		[Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis-2-Chloroethoxy)methane	0.010	ND<0.010				
Bis-2-chloroisophopyllether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
<u>Bromodishloromethane</u>	0.010	ND<0.010				
Bromoforn	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldebyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chlorcethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Shionoethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chichomethyl methyl ether	0.010	ND<0.010				
Chlonotoluene	0.010	ND<0.010				
Dibromoch loromethane	0.010	ND<0.010				

6-OFTC SB-1 SS-14 50' IYC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroetnylene	0.010	ND<0.010				=
Dichloromethane	0.010	9,900		5.7		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachlorcethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ES Job No. <u>56394</u>	Lab Sample No	35328-19 Dup	
Client	Field Sample No.	6-0FTC-SB1-SS14-50-IT	C
Project AF Plant 42	Date Collected	12-12-95	
Client No.	Date Received	12-13-85	
Laboratory Supervisor Approval:	Date Analyzed	12-18-85	
	QC Report No.	8010-7	_
Sample Matrix:			
/ Water (ug/L)	Dilution Factor _	N/A	
<u>/X</u> / Scil (ug/g)	*Moisture		q
/_/ Other			
Spike Source			

	Concentration			Retenti		
Compound	Det Lim	Column 1		Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis-2-Chloroethoxy)methane	0.010	ND<0.010				
Bis-2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromeform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chlorcacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chlorcethane	0.010	ND<0.010				
Chloreform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Shioromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

6-OFTC SB-1 SS-14 50' ITC DUP.

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichlorpethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichlorostnylere	0.010	ND<0.010	*			
trans-1,2-dichlordetnylene	0.010	ND<0.010				
Dichloromethane	0.010	2.870		5.7		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichlorcethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichlorophopane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35328-21	SPIKE
Client	Field Sample No.	6-OFTC-SB1-S	SS14-50-ITC
Project AF Plant 42	Date Collected _	12-12-85	
Client No.	Date Received _	12-13-85	
Laboratory Supervisor Approval:	Date Analyzed _	12-18-85	
	QC Report No	8010-7	
Sample Matrix:			
/ Water (ug/L)	Dilution Factor	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		
/_/ Other			
Spike Source			

	Concentration		Retention Time			
Compound	Det Lim		Colombia 2	column 1	Column 2	Notes
Benzyl chloride	0.010					
Bis-2-Chlorcethoxy)methane	0.010					· · · · · · · · · · · · · · · · · · ·
Bis-2-chloroisopropyl)ether	0.010					
Bromobenzene	0.010					
Bromodichloromethane	0.010	0.043		13.7		
Bromoform	0.010	0.058		18.8		
Bromomethane	0.010					
Carbon tetrachloride	0.010	0.038		13.1		
Chloroacetaldehyde	0.010					
Chloral	0.010					· · · · · · · · · · · · · · · · · · ·
Chlorobenzene	0.010	0.038		23.7		
Chlorcethane	0.010					
Chloroform	0.010	0.048		10.8		
1-Chlorohexane	0.010					
2-Chloroethyl vinyl ether	0.010					
Chloromethane	0.010					
Chlororethyl methyl ether	0.010					
Chlorotoluene	0.010					
Dibromochloromethare	0.010	0.160		16.4		

6-OFTC-SB1-SS14-50-ITC SPIKE

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Sipromomethane	0.010					
Dichloredifluoromethane	0.010					
1,1-Osonloncethane	0.010	0.047		9.7		
1,2-Dichiorcethane	0.010	0.050		11.3		
1,1-Dicrionoethylene	0.010	0.031		8.5		
trans-1,2-dichloroethylene	0.010	0.040		10.3		
Oranlonomethane	C.010	ND<0.010				
1,2-Dichloropropane	0.010	0.043		14.9		
1,3-Dichionopropylene	0.010	0.160		16.4		
1,1,2,2-Tetrachloroethane	0.010	0.075		21.3		
1,1,1,2-Tetrachloroethane	0.010					
Tetrachloroethylene	0.010	0.075		21.3		
1,1.1-Trachloroethane	0.010	0.032		12.8		
1,1,2-Trichloroethane	0.010	0.160		16.4		
Trachloroethylene	0.010	0.054		15.8		
Intenterofluoromethane	0.010	~				
Inteniuropropane	0.010	~				
Vinyl chloride	0.010					

ES Job No. <u>56394</u>	Lab Sample No. <u>35328-13, 35328</u>				<u></u>				
Olient		Field Sample No. 6-0FTC SB-1 SS-5 10' I							
Project AF Plant 42		Date Collected 12-11-85							
Client No.									
_appratory Supervisor Approva		Date Analyzed 12-18-85, 12-31-85							
		QC Report No. 8020-6							
Sample Matrix:									
water (ug/L)		ົນ	ilution Fa	ctor <u>c con</u>	c, 1:100				
<u>X</u> / Soil		*M	oisture			9,			
/ Otner									
Spike Source									
!	Co	Concentration			Retention Time				
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes			
Benzene	0.005	ND<0.005							
Cnloropenzene	0.005	ND<0.005							
1,2-Dichloropenzene	0.005	3.910		14.5					
1,3-Dichloropenzene	0.005	1.560		13.0					
1,4-Dichloropenzene	0.005	1.830		12.7		+			
Etnyî penzene	0.005	0.011		7.4					
Toluere	0.005	ND<0.005							
Xylenes (Dimethyl benzene)	0.005	1.280		7.9					
				8.2					
				8.3					
		1	T						

ANALYTICAL RESULTS SUMMARY Anomatic Volatile Organics SW Method 8020

ES Job No. 56394 Client Project AF Plant 42 Client No. Laboratory Supervisor Approve Sample Matrix: / Water (ug/L)X / Soil/ Other		Lab Sample No. 35326-17, 35326-7 Field Sample No. 6-0FTC SB-1 SS-2 2 Date Collected 12-11-85 Date Received 12-13-85 Date Analyzed 12-18-85, 12-31-86 QC Report No. 8020-6 Dilution Factor con, 1:20 *Moisture				1-86
Soike Source						
		ncentratio		Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005	ND<0.005			[
Cnloropenzene	0.005	ND<0.005	ND<0.005			
1,2-Dichloropenzene	0.005	19.5	ND<0.005	14.3		<u> </u>
1,3-Dichloropenzene	0.005	7.530	ND<0.005	13.0		
1,4-Dichloropenzene	0.005	8.950	ND<0.005	12.8		
Etnyl penzene	0.005	0.012	ND<0.005	7.4		
Toluene	0.005	0.0077	ND<0.005	4.9		
<pre>Xylenes (Dimetryl penzene)</pre>	0.005	7.660	ND<0.005	7.9		
	ļ			8.2		
				8.8		
	1				1	1

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

55.04		,		N - 2	5222 10	
ES Job No. <u>56394</u>			ab Sample			
Client			ield Sampl			5-14 50'I
Project AF Plant 42			ate Collec			
Client No.		D	ate Receiv	ed <u>12-1</u>	3-85	
Laboratory Supervisor Approva	aì:	D	ate Analyz	ea <u>12-1</u>	8-85	
		Q	C Report N	o	8020-6	
Sample Matrix:						
/ Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Seil		★ M	loisture			9
// Other						
Spike Source						
						
	0-		_	D-++	T:	
Compound			n Column 2		on Time	Notes
Compound	De C I. IIII	CO Tamer 1	BOTAINT Z	CO (Giii) 1	COTAINT 2	Notes
Benzene	0.005	ND<0.005		~		
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
1,4 bicirio obstizene	0.005	1000.000				
Etnyî benzene	0.005	ND<0.005				
Toiuene	0.005	ND<0.005				
Xylenes (Dimetnyl benzene)	0.005	ND<0.005		~		
M. T. C.	+	1.5.0.00	 	 	 	

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No.	56394	Lab Sample No.	35328-11
		-	. 6-OFTC SB-1 SS-10 30'IT
Project	AF Plant 42	Date Collected	12-11-85
Client No.		Date Received	12-13-85
	Supervisor Approval:		12-18-85
		QC Report No	8020-6
Sample Matr	nix:		
∠/ Wate	er (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soi	1	*Moisture	%
<u>/</u> / Oth€	er		
Spike Sourc	ce		
			
		Concentration Re	etention Time

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimetnyl benzene)	0.005	ND<0.005				

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ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O. Box 538 Arcadia, CA 91006 Octoper 8, 1986

Attn: Dennis R. Kasper

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December 17, 1985

56394

35345/rjc

REVISED REPORT

Eight (8) soil samples.

Sample Number	Date	Time
7-ERA2-SB2-SS5-10'-ITC	12/13/85	1200
7-ERA2-SB2-SS10-30'-ITC	12/13/85	1200
7-ERA2-SB2-SS14-50'-ITC	12/13/85	1200
7-ERA2-SB2-SS15-10'-ITC	12/13/85	1200
7-ERA2-SB3-SS5-10'-ITC	12/14/85	090 0
7-ERA2-SB3-SS8-20'-ITC	12/14/85	0900
7-ERA2-SB3-SS10-30'-ITC	12/14/85	0900
7-ERA2-SB3-SS14-50'-ITC	12/14/85	0900

The samples were extracted according to EPA Method 3550 and then analyzed for Total Recoverable Petroleum Hydrocarbons by EPA Method 418.1. The results are listed on the following page.

Gary Oishi

Vicely, J Mine' Eric W. Lindsay Laboratory Manager I Sample: AF Plant 42 IRP-II ES Job #56394

Date of Analysis: 1/3/86

	Total Recoverable
<u>Sample</u>	Petroleum Hydrocarbons (ug/g)
7-ERA2-SB2-SS5-10'-ITC	ND<2
7-ERA2-SB2-SS10-30'-ITC	2
7-ERA2-SB2-SS14-50'-ITC	ND<2
7-ERA2-SB2-SS15-10'-ITC	ND<2
7-ERA2-SB3-SS5-10'-ITC	3
7-ERA2-SB3-SS8-20'-ITC	5300
7-ERA2-SB3-SS10-30'-ITC	3200
7-ERA2-SB3-SS14-50'-ITC	340
*7-ERA2-SB1-SS5-10'-TTC	ND<2
*7-ERA2-SB1-SS5-10'-ITC DUPLICATE	2
*7-ERA2-SB1-SS5-10'-ITC SPIKE	19
*Spike Concentration	17

Percent Recovery: +100%

Relative Percent Difference: N/A

 \star - The QC results are from IT Job No. 35328; these samples were analyzed together with the samples in this report and only one set of QC analysis was performed.



ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 September 29, 1986

Attn: Dennis R. Kasper

Page 1 of 24

December 21, 1985

56394

35357 lac

REVISED REPORT

Five (5) soil samples.

Sample	Date	<u>Time</u>
2-PWD2-SE1-SS2-2.5~ITC	12-16-85	0300
2-PWD2-SB1-SS5-10-ITC	12-16-85	0900
2-PWD2-SB1-SS14-50-ITC	12-16-85	0900
2-PWD2-SB1-SS15-10-ITC	12-16-85	0900
2-PWD2-SB1-SS10-30-ITC	12-16-85	0900

The samples were extracted according to CAM Title 22 and analyzed by AAS and ICP. The samples were analyzed on a soluble basis, therefore they are reported as Milligrams Per Liter(mg/L). We were unable to do spikes on a soluble extract without changing the extraction conditions. The phenols were distilled and determined colorimetrically according to Standard Methods 510C. The results are listed in Table I.

The samples were also extracted according to EPA Method 3550 and then analyzed for total recoverable Oil and Grease by EPA Method 413.2 These results are listed in Table II. The Quality Control Data is listed in Table III.

In addition, the samples were also analyzed for purgeable halocarbons using a Tekman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electroltyic conductivity detector. The samples were prepared according to EPA Method 8010.

Also, the samples were analyzed for aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director

September 29, 1986 JN: 35357 - Page 2

It is noted that a number of samples covered in this report show substantial concentrations of dichloromethane. At the time these samples were being analyzed, other work being done in the laboratory involved the use of Dichloromethane. We believe the dichloromethane concentrations reported for these samples represent laboratory air contamination and should not be considered as being part of the samples. Laboratory procedures have been changed to minimize dichloromethane contamination in the future.

Taple I

		<u>M</u>	illigrams/lite	r	
	2-PWD2-SB1- SS10-30-ITC	2-PWD2-SB1- SS2-2.5-ITC	2-PWD2-SB1- SS5-10-ITC	2-PWD2-SB1- SS14-50-ITC	2-PWD2-SB1- SS15-10-ITC
Ansenic	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Barium	3.8	3.7	4.5	5.0	4.4
Cadmium Total chromium	ND<0.03 ND<0.06	0.11 0.7	ND<0.03 0.2	ND<0.03 0.1	ND<0.03 ND<0.07
Lead	6.4	1.9	0.2	ND<0.2	ND<0.2
Mercury	ND<0.001	ND<0.001	0.13	0.001	ND<0.001
Selenium	0.02	0.022	0.02	0.018	0.027
Stiver	ND<0.03	ND<0.03	ND<0.03	80.03	ND<0.03
Phenol*	0.33	0.35	0.24	0.21	0.16

Date Analyzed: 12/24/85

* - Phenol results in ug/g, the samples were analyzed 12/28/85

Table II

	Total Oil and Grease(ug/g)
2-PWD2-SB1-SS2-2.5'-ITC	980
2-PWD2-SE1-SS5-10'-ITC	5
2-PwD2-SB1-SS10-30'-ITC	ND<2
2-PWD2-SB1-SS14-50'-ITC	27
2-PWD2-SB1-SS15-10-ITC	ND<2

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Table III Quality Control Data

	Micrograms/gram
	Total Oil and Grease(ug/g)
2-Pw02-S81-SS5-10'-ITC 2-Pw02-S81-SS5-10'-ITC Dup	5 3
Relative Percent Difference: 50	
2-PwD2-SB1-SS5-10'~ITC Spike Spike Amount	30 29
Percent Recovery: 93%	

Date Analyzed: 01/02/86

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 2-PWD2-SB1-SS10-30-ITC	QC Report No. <u>8010-11</u>
Duplicates <u>35357-056, 35357-</u> 057	Date Analyzed <u>12/31/85</u>
Spike <u>35357-057</u>	Laboratory Supervisor Approval:
Sample Matrix:	
// Water (ug/L)	Dilution Factor N/A
<u>/X</u> / Soil (ug/g)	*Moisture%
/ / Other	
Spike Source	

		Duplicates			Spike Recovery				
Compound	Blank	CI	C2	RPU	SA	SR	SSR	PR	Notes
Benzyl chloride	0.610		80.010			k0.010			
Bis(2-Chloroethoxy)methane	8.810		80.610			<0.010			
Bis(2-chloroisopropyl)ether	8.010	1 -	0.610			k0.010			
Bromobenzene	8.010	\	θ.δ10			k0.010			
Bromodichloromethane	8.610	ŗ	80.610		0.050	k0.010	0.050	100	
Bromoform	8.010	ļ .	0.610	l	0.050	k0.010	0.050	100	
Bromomethane	8.010	80.610	0.610	-		k0.010			
Carbon tetrachloride	8.010	80.610	0.610	-	0.050	0.010	0.049	98	
Chloroacetaldehyde	80610	8.810	8.610	-		k0.010			
Chloral	8.010	8.610	0.810	-		0.010			
Chlorobenzene	8.010	8.010	0.610	-	¢.050	0.010	0.045	90	
Chloroethane	8.810	8º. 610	0.010	-		0.010			
Chloroform	0.010	0.610	0.610	-	0.050	0.010	0.050	100	
1-Chlorohexane	8.010	€.610	θ.δ10	-		0.010			
2-Chloroethyl vinyl ether	8.010	8:310	8.010	-	T	0.010		T	
Chloromethane	8.010	8.010	B. 610	-		0.010		Ī	
Chloromethyl methyl ether	8.610	8.810	8.810	-		0.010			
Chlorotoluene	8.610	8.810	8.δ10	-		0.010			
Dibromochloromethane	8.610	8.010	8.610	-	0.178	0.010	0.157	88	

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2-PWD2-SB1-SS10-30-ITC

particular continuous marchine et al. 10 marchine e	·	tos. 2 	an and mesons.		<u> </u>				+ 4== =======
		Duplicates				Spike R	ecovery		
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PP	Notes
Dibromomethane	ND< 0.010	ND< 0.010				<0.010			
Dichlorodifluoromethane	₩ ^D გე 0	8 ⁰ . 610	ზ ⁰ .გ10			<0.010			
1,1-Dichlorcethane	ŊD ₆₁₀	θ.δ ₁₀	θ.δ10		0.050	<0.010	0.053	106	
1,2-Dicnloroethare	80.610	წე _გ ე	θ.δ ₁₀		0.050	<0.010	0.052	104	
1,1-Dichloroethylene	θ.δ ₁₀	ტე _{გე}	θ		0.050	<0.010	0.068	136	
trans-1,2-dichloroethylene	80.δ10	8 ⁰ δ10	80.δ1c		0.050	<0.010	0.053	106	
Dichloromethane	ტე _{გე}					<0.010			
1,2-Dichloropropane	ND δ10	ND δ10	ND δ10		0.050	<0.010	0.066	132	
1,3-Dichloropropylene	^{NO} .δ10	ND გეი	1		0.178	<0.010	0.157	88	
1,1,2,2-Tetrachloroethane	ND δ10	8 ^D δ10	ND δ10		0.100	<0.010	0.100	100	
1,1,1,2-Tetracnioroethane	θ ^D .δ10	8 ^D δ1c	θ [.] δ10			<0.010			
Tetrachloroethylene	ND δ10	8 ^D δ10	θ.δ10		0.100	<0.010	0.100	100	
1,1,1-Trichloroethane	θ 610	ND δ10	θ.δ ₁₀		0.050	<0.010	0.040	80	
1,1,2-Trichloroethane	ტე. მე. გეი	ზ ^D . б10			0.178	<0.010	0.157	88	
Trichloroethylene	^ე ენ10	Nº δ10	₩Dδ10	- 	0.050	<0.010	0.048	96	
Trichiorofluoromethane	₩ ^D δ10	80.610				<0.010			
Trichloropropane	₿ <u>.</u> б10	θ.δ ₁₀	ND δ10			<0.010			
Vinyl chloriae	θ.δ ₁₀	8º. 610	θ.δ10			<0.010			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35357-052
Client	Field Sample No.	2-PWD2-SB1-SS2-2.5-ITC
Project <u>AF Plant 42 IRP II</u>	Date Collected _	
Client No	Date Received	12/17/85
Laboratory Supervisor Approval:	Date Analyzed	12/30/85
	QC Report No.	
Sample Matrix:		
/ Water (ug/L)	Dilution Factor	N/A
<u>/X-/-Soil-(ug/g)</u>	*Moisture	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
<u>/-</u> / Other		
Spike Source		

	Concentration Det Limi Column 1 Column 2			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromeform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010		~		
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

2-PWD2-SB1-SS2-2.5-ITC

	Concentration			Retenti		
Compound		Column 1		Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dronlorodifluonomethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-DronTonoethane	0.010	ND<0.010				
1,1-Dronionsetnylene	10.010	ND<0.010				
trans-1,2-a;cnlorcethylene	0.010	ND<0.010				
Dionioromethane	0.010	0.060		5.8		
1,2-Bionloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachionoethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachicroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trionlorgetmane	0.010	ND<0.010				
Trichlongethylene	0.010	ND<0.01C				
Infoniorofluoromethane	0.010	ND<0.010				
Thichlorophopane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No	35357-053
Client		2-PWD2-SB1-SS5-10-ITC
Project AF Plant 42 IRP II	Date Collected	
Client No.		12/17/85
Laboratory Supervisor Approval:	Date Analyzed	
	QC Report No.	8010-11
Sample Matrix:		
<u>/_</u> / Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)		
Spike Source		

Company	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				- -
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

2-PWD2-SB1-SS5-10-1TC

·	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dicnloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroetrylene	0.010	ND<0.010				
Dichloromethane	0.010	0.092		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010		<u> </u>		
Tetrachloroethylche	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	พอ<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35357-054
Client v v v v v v v v v v v v v v v v	- Field Sample No.	2-PWD2-SB1-SS14-50-ITC
Project AF Plant 42 IRP II	Date Collected	12/16/85
Client No.	Date.Received	12/17/85
Laboratory Supervisor Approval:	Date Analyzed	12/30/85
	QC Report No	8010-11
Sample Matrix:	TO THE TANK MADE AND ADMINISTRATION OF THE OWN OF THE PROPERTY	
7 / Water (ug/L)	Dilution Factor	
- <u>/X</u> / Soil (ug/g)	*Moisture- <u></u> -	
<u>/</u> / .0ther <u></u>		· · · · · · · · · · · · · · · · · · ·
Spike Source		

	Concentration			Retenti	•	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010	1 1 1 1			
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				-
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				• • .
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				-
Chloroethane	0.010	ND<0.010				-
Chloroform	0.010	ND<0.010				
1-Chlorohexane	C.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010			*	
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

2-PWD2-SB1-SS14-50-ITC

	Concentration			Retenti		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroetnane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dicrioroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.117		5.8		
1,2-Dicnloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				T
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-TrichToroethane	0.010	ND<0.010				·
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35357-055
Client		2-PWD2-SB1-SS15-10-ITC
Project AF Plant 42 IRP II		
Client No.		
Laboratory Supervisor Approval:	- Date Analyzed	12/30/85
	QC Report No.	8010-11
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Scil (ug/g)	*Moisture	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
<u>/</u> / Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010		- 1		
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010		**		
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010	** **			
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

2-PWD2-SB1-GS15-10-ITC

	Co	ncentratio	ın	Retention Time		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichiorcetnane	0.010	ND<0.010		~		
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylere	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.080		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachlorcethane	0.010	ND<0.010				
1,1,1,2-Tetrachlorcetnane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroetname	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroetnylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No.	35357-056
Client	Company (No. 1) The Company of the C	2-PWD2-SB1-SS10-30-ITC
Project <u>AF Plant 42 IRP II</u>	Date Collected	
Client No.	Date Received _	
Laboratory Supervisor Approval:	Date Analyzed	12/30/85
	QC Report No	8010-11
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	9
Spike Source		
		

Compound	c	oncentrati	on	Retenti		-
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010			. -	
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				:
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.016				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

2-PWD2-SB1-SS10-30-ITC

	Co	ncentratio	ın	Retenti	on Time	,
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichlorcetnylene	0.010	010.0>CM				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.275		5.8		
1,2-Dicnloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
trichioropropane	0.010	ND<0.010				
Vinyî chloriae	0.010	ND<0.010				

ES Joo No. 56394	Lab Sample No.	35357-057 DUP
Client	Field Sample No	2-PWD2-SB1-SS10-30-IT(
Project <u>AF Plant 42 IRP II</u>	Date Collected _	12/16/85
Client No.	Date Received _	12/17/85
Laboratory Supervisor Approval:	Date Anaiyzea _	12/31/85
	QC Report No.	8010-11
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>'X</u> / Soil (ug.g)	*Moisture	2
Spike Sounce		

	С	Concentration R			Retention Time		
	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010					
Bis(2-Chloroethoxy)methane	0.010	ND<0.010					
Bis(2-cnloroisopropyl)ether	0.010	ND<0.010					
Bromopenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010					
Bromometnane	0.010	ND<0.010					
Carpon tetrachloride	0.010	ND<0.010					
Cnloroacetalgenyge	0.010	ND<0.010					
Cnioral	0.010	ND<0.010					
Cnioropenzene	0.010	ND<0.010					
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Cnloroetnyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chioromethy: methy! ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010					
Dipromochloromethane	0.010	ND<0.010					

Continued

2-PWJ2-SB1-SS10-30-ITC DUP.

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodiflucromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichionoethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichionoethylene	0.010	ND<0.010				
Dichleromethane	0.010	0.102		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	NO<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachioroetnylene	0.010	ND<0.010				
1,1,1-Tricnloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyī chloride	0.010	ND<0.010				

ES Job No. 56394	wap Sample No	35357-058 SPIKE
Client	Field Sample No.	2-PWD2-SB1-SS10-30-ITC
Phoject AF Plant 42 IRP II	Date Collected _	12/16/85
Client No	Date Received _	12/17/85
Laboratory Supervisor Approval:	Date Analyzec _	12/31/85
	QC Report No	8010-11
Sample Matrix:		
<pre> = water (ug/L)</pre>	Dilution Factor	N/A
<u>[X</u> / Sorl (ug g)	*Moisture	
/ / Other		
Spake Source		

I.	С	Concentration Retention Time		Retention Time		<u> </u>
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl onloride	0.010					
Bis(2-Cnlorcethoxy)methane	0.010					
Bis(2-cn?orcisopropy?)etner	0.010					
Bromopenzene	0.010					<u> </u>
Bromodichloromethane	0.010	0.050		13.7		
Bromoform	0.010	0.050		19.1		ļ
Bromometnane	0.010					
Carpon tetrachloride	0.010	0.049		13.1		
Cnicroacetaidehyde	0.010					<u> </u>
Cnioral	0.010					
Chloropenzene	0.010	0.045		23.9		<u> </u>
Chloroethane	0.010					
Crioroform	0.010	0.050		10.8		
1-Cnlorohexane	0.010					
2-Chloroethyl vinyl etner	0.010					
Chloromethane	0.010					
Chloromethyl methyl ether	0.010					
Chlorotoluene	0.010					
Dipromochloromethane	0.010	0.157		16.4		<u> </u>

Continued

2-PWD2-SB1-SS10-30-ITC SPIKE

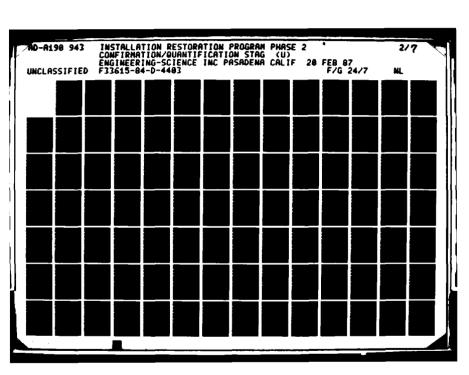
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2 i	Notes
Dipromomethane	0.010					
Dichlorodifluoromethane	0.010					
1,1-Dichloroethane	0.010	0.053		9.7		
1,2-Dichloroetnane	0.010	0.052		11.6		
1,1-Dichloroethylene	0.010	0.068		8.6		
trans-1,2-dichloroethylene	0.010	0.053		10.3		
Dichloromethane	0,010					
1,2-Dichloropropane	0.010	0.066		15.0		
1,3-Dichioropropylene	c.010	0.157		16.4		
1.1.2.2-Tetrachloroethane	0.010	0.100		21.1		
1,1,1,2-Tetrachlorostnane	0.010					· — — · — · — · · · · · · · · · · · · ·
Tetrachioroethylene	0.010	0.100		21.1		
1,1,1-Trichloroethane	0.010	0.040		12.8		
1,1,2-Trichloroethane	0.010	0.157		16.4		
Trichloroethylene	0.010	0.048		15.8		
Intchlorofluoromethane	0.010					
Trichloropropane	0.010					
Vinyl chloride	0.010					

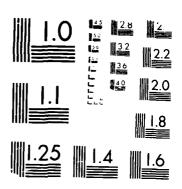
ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		L	ab Sample	No. \$35357	-14,35357-	-9,35357-12
Client		F	ield Sampl	e No. <u>2-P</u> w	D2-SB1-SS2	2-2.5-ITC
Done local AE Discus AO		ם	ate Collec	ted	12/16/85	
Client No.		D	ate Receiv	red	12/18/85	
Laboratory Supervisor Approva	ī:	ם	ate Analyz	ed	12/30/85,	1/2/86
		Q	C Report N	io	8020-11	
Sample Matrix: /_/ Water (ug/L) /X / Soil (ug/g) /_/ Other		*M	Dilution Fa			
Spike Source						
Compound		oncentratio		, -	on Time Column 2	Notes

	Co	ncentratio	n	Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.5	ND<0.5					
1,3-Dicnlorobenzene	0.5	4.8		13.0			
1,4-Dichlorobenzene	C.5	ND<0.5					
Ethyl benzene	0.5	0.14		7.3			
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.05	2.0		7.9			
				8.2			
				8.8			

- \$ Lab sample numbers represent the different dilutions used in the analysis of this sample.
- c Several dilution factors were used a) to determine the detection limit or b) due to matrix effects.





MICROCOPY RESOLUTION TEST CHART
NATIONAL RUBLIAL STANGARDS (263-4)

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics Sw Method 8020

ES Job No56394	Lab Sample No	35357-13	_
Client	Field Sample No.	2-PWD2-SB1-SS5-10-ITC	_
Project AF Plant 42	Date Collected _	12/16/85	
Client No.	Date Received _	12/18/85	_
Laboratory Supervisor Approval:	Date Analyzed	12/30/86	_
	QC Report No	8020-11	_
Sample Matrix:			
<u>/</u> / Water (ug/L)	Dilution Factor	N/A	
<u>/X_</u> /_Soil_(ug/g)	*Moisture		ì
/_/ Other			
Spike Source			

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnioropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichioropenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimetnyl benzene)	0.005	ND<0.005				
					[

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No56394		ŧ	ab Sample	No. 3535	7-15	
Client			ield Sampl			
Project AF Plant 42			ate Collec			
Client No.		ם	ate Receiv	ed	12/18/85	
Laboratory Supervisor Approva		ס	ate Analyz	ea	12/31/86	
	_ _	Q	C Report N	o	8020-11	
<pre>Sample Matrix: // Water (ug/L) /X / Soil (ug/g) // Otner</pre>			cilution Fa			
Spike Source						
Compound		ncentratio	n Column 2	Retenti		Notes
Benzene		ND<0.005				Notes

	Co	Concentration		Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				1
				į		

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No56394		Ĺ	ab Sample	No. <u>3535</u>	7-15		
Client		F	ield Sampl	e No. 2-Ph	D2-SB1-SS1	4-50-ITC	
Project AF Plant 42		Date Collected 12/16/85					
Client No.		0	ate Receiv	ed	12/18/85		
Laboratory Supervisor Approv	al:	0	ate Analyz	.ea	12/30/86		
	_	Q	C Report N	lo	8020-11		
Sample Matrix:							
/ Water (ug/L)		D	ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		*M	loisture				
<u>/</u> / Other							
Spike Source	- · · · · · · · · · · · · · · · · · · ·						
	Co	ncentratio	n	Retenti	on Time		
Compouna		Column 1			Column 2	Notes	
Benzene	0.005	ND<0.005					
Chloropenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	0.009		14.5			
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	0.009		12.7			
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					
		<u> </u>	T T		T		

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. <u>56394</u>		Ĺ	ab Sample	No. 3535	7-14	
Client		F	ield Sampl	e No. 2-Ph	D2-SB1-SS1	5-10-IT
Project <u>AF Plant 42</u>						
Client No.		Date Received 12/				
Laporatory Supervisor Approv		Date Analyzed 12/31/8				
		Q	C Report N	lo	8020-11	
Sample Matrix:						
/_/ Water (ug/L)		ם	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture			
// Ctner						
Spike Source						
				Γ		1
	Co	ncentratio	n	Retenti	on Time	
Compound		Column 1				Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,3-5 (Cirio) Oberizerie	0.005	ND 0.003				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
	 					
		 				



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ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

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Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 October 8, 1986

Attn: Dennis R. Kasper

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December 19, 1985

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35374/rjc

REVISED REPORT

Eight (8) soil samples.

Sample Identification	<u>Date</u>	<u>Time</u>
2-PWD2-SB2-SS2-2.5-ITC	12-16-85	1500
2-PWD2-SB2-SS5-10-ITC	12-16-85	1500
2-PWD2-SB2-SS10-30-ITC	12-17-85	0900
2-PWD2-SB2-SS14-50-ITC	12-17-85	0900
2-PWD2-SB3-SS2-2.5-ITC	12-17-85	1200
2-PWD2-SB3-SS5-10-ITC	12-17-85	1200
2-PWD2-SB3-SS10-30-ITC	12-17-85	1200
2-PWD2-SB3-SS14-50-ITC	12-18-85	0900

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were extracted according to CAM Title 22 and analyzed by AAS and ICP. The samples were analyzed on a soluble basis, therefore they are reported as Milligrams Per Liter (mg/g). We were unable to do spikes on a soluble extract without changing the extraction conditions. The phenols were distilled and determined colorimetrically according to standard method #510C. The results are listed in Table I.

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director

October 8, 1986 JN: 35374 - Page 2

Also, the samples were extracted according to EPA Method 3550 and then analyzed for Total recoverable Oil and Grease by EPA Method 413.2 The results are listed in Table II, and the Quality Control Data is listed in Table II.

It is noted that a number of samples covered in this report show substantial concentrations of dichloromethane. At the time these samples were being analyzed, other work being done in the laboratory involved the use of Dichloromethane. We believe the dichloromethane concentrations reported for these samples represent laboratory air contamination and should not be considered as being part of the samples. Laboratory procedures have been changed to minimize dichlormethane contamination in the future.

Table I

Date Analyzed: 12/24/85

		Milligrams/liter							
	2-PWD2- SB2-SS5-10'	2-PWD2- SB2-SS14 50'	2-PWD2- SB2-SS2-2.5	2-PWD- SB3-S22-2.5'					
Arsenic	0.054	ND<0.05	ND<0.05	ND<0.05					
Barium	4.2	4.9	2.1	3.9					
Cadmium	ND<0.03	ND<0.03	0.07	0.06					
Chromium	ND<0.06	0.07	0.52	0.16					
Lead	0.2	ND<0.2	0.4	ND<0.2					
Mercury	0.008	0.006	0.011	0.005					
Selenium	ND<0.005	ND<0.005	ND<0.005	ND<0.005					
Silver	ND<0.03	ND<0.03	ND<0.03	ND<0.03					
Phenoì	ND<0.04	ND<0.04	0.88	0.76					
		Milligra	ligrams/liter						
	2-PWD2- SB3-SS14-50'	2-PWD2- SB2-SS10-30'	2-PWD2- SB3-SS10-30'	2-PWD2- SB3 SS5-10'					
Arsenic	ND<0.05	ND<0.05	ND<0.05	0.085					
Barium	3.3	4.8	1.7	4.4					
Cadmium	ND<0.03	ND<0.03	ND<0.03	0.05					
Chromium	ND<0.06	ND<0.06	ND<0.06	0.17					
Lead	ND<0.2	ND<0.2	ND<0.2	0.2					
Mercury	0.005	0.025	0.006	0.005					
Selenium	ND<0.005	ND<0.005	ND<0.005	ND<0.005					
Silver	ND<0.03	ND<0.03	ND<0.03	ND<0.03					
Pheno1	ND<0.04	ND<0.04	ND<0.04	0.16					

^{*} Pheno: results are reported in ug/g; phenois analyzed on 12/21/85.

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

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Table II

Sample: AF Plant 42 IRP-II ES Job #56394 Date of Analysis: 01/16/86

Total Oil and Grease (ug/g)

2-PWD2-SB2-SS2-2.5'-ITC	35
2-PWD2-SB2-SS5-10'-ITC	ND<2
2-PWD2-SB2-SS10-30'-ITC	ND<2
2-PWD2-SB2-SS14-50'-ITC	10
2-PWD2-SB3-SS2-2.5'-ITC	ND<2
2-PWD2-SB3-SS5-10'-ITC	ND<2
2-PWD2-SB3-SS10-30'-ITC	ND<2
2-PWD2-SB3-SS14-50'-ITC	ND<2

Table III

Quality Control Data

Total Oil and Grease (ug/g)

6000

2-PWD2-SB3-SS10-30'-ITC 2-PWD2-SB3-SS10-30'-ITC Dup.	ND<2 ND<2
Relative Percent Difference: N/A	
2-PWD2-SB3-SS10-30'-ITC Spike	6000

Pecent Recovery: 100%

Spike Amount

Date Analyzed: 01/06/86

N/A - Not applicable.

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 2-PWD2-SB3-SS10-30-ITC	QC Report No	8010-12	
Duplicates 35374-4, 35374-5	Date Analyzed	1-2-86	
Spike <u>35374-6</u>	Laboratory Supervis	sor Approval:	
Sample Matrix:		·	
// Water (ug/L)	Dilution Factor	N/A	
X / Soil (ug/g)	*Moisture		%
/_/ Other			
Spike Source	·		

		Duplicates		Spike Recovery					
Compound	Blank	C1	C2	RPD	SA	SR	SSR	pp qq	Notes
Benzyl chloride	₩ ^D δ10	^{βD} δ10	₩D610			k0.010			
Bis(2-Chloroethoxy)methane	₩ ^D δ10	θ ^D δ10	₩º610			k0.010			
Bis(2-chloroisopropyl)ether	θ. δ10	β₽. 610	₩D. 610			k0.010			
Bromobenzene	β <u>.</u> δ10	ND 610	ND510			k0.010		_==_	
Bromodichloromethane	80.610	₩Dδ10	₩D510		0.050	0.010	0.052	104	
Bromoform	ND 610	<u>₩</u> .610	₩0.610		0.050	0.010	0.048	96	
Bromomethane	θ ^D δ10	ND δ10	ŊD. δ10			0.010		===	
Carbon tetrachloride	θ ^D .δ10	₩ ^D δ10	ND δ10		0.050	0.010	0.045	90	
Chloroacetaldehyde	ND δ10	θ. δ10	ND 610			0.010			
Chloral	80.δ10	ND δ10	ND δ10			0.010			
Chlorobenzene	8 ^D δ10	₩D. 610	ND δ10		0.050	0.010	0.053	105	
Chloroethane	₩₽. 610	β. δ10	₩ ^D δ10		<u> </u>	0.010			
Chloroform	80.510	ND 510	₩D. 610		1.050	0.010	0.052	104	
1-Chlorohexane	8º810	θ.δ10	80.δ10			0.010			
2-Chloroethyl vinyl ether	80.δ10	ND δ10	ND δ10		<u> </u>	0.010			
Chloromethane	NP.δ10	ND δ10	ND 610		<u> </u>	40.010		<u> </u>	
Chloromethyl methyl ether	ND δ10	ND δ10	ND δ10			0.010			
Chlorotoluene	ND 610	ND 610	ND δ10		<u> </u>	0.010			
Dibromochloromethane	ND δ10	ND δ10	80.δ10	<u> </u>	d. 178	40.010	0.192	108	<u> </u>

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2-PWD2-SB3-SS10-30'-ITC

		Duplicates			Spike Recovery				
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<						
Dibromomethane	0.010		0.010			<0.010			· · · · · · · · · · · · · · · · · · ·
Dichlorodifluoromethane	θ.δ10	θ. δ10	₩D. 0.010	0		<0.010			
1,1-Dichloroethane	θ 610	θ.δ10	θ.δ10	0	0.050	<0.010	0.053	106	
1,2-Dichloroethane	ND δ10	შეგენ 10	ND δ10	0	0.050	<0.010	0.056	112	
1,1-Dichloroethylene	ND δ10	θ. δ10	₩ ^D δ10	0	0.050	<0.010	0.047	94	
trans-1,2-dichloroethylene	θ.δ10	ND δ10	ND δ10	0	0.050	<0.010	0.046	92	
Dicnloromethane	80.61c	0.042	0.084	0.67	0.050	0.063	0.129	132	
1,2-Dichloropropane	θ. δ10	ND გ10	ND δ10	0	0.050	<0.010	0.063	126	
1,3-Dichloropropylene	θ ⁰ .δ10	ND გენ	ND δ10	0	0.178	<0.010	0.192	108	
1,1,2,2-Tetrachloroethane	₩D. 610	₩0.610	ND δ.δ10	0	0.100	<0.010	0.106	106	
1,1,1,2-Tetrachloroethane	θ ⁰ .δ10	ŊD δ.δ10	ND δ10	0		<0.010			
Tetrachloroethylene	θ.δ ₁₀	θ.δ ₁₀	ND δ10	0	0.100	<0.010	0.106	106	
1,1,1-Trichloroethane	80. δ. δ10	₩ ^D . 610	θ ⁰ .δ10	0	0.050	<0.010	0.054	108	
1,1,2-Trichloroethane	θ ^D .δ10	θ ^D δ10	θ ^D δ10	0	0.178	<0.010	0.192	108	
Trichloroethylene	შენ10		θ.δ10	0	0.050	<0.010	0.070	140	
Trichlorofluoromethane	ND 610	θ.δ ₁₀	₩ ^D . 610	0		<0.010		-	
Trichloropropane	წენ10	θ.δ ₁₀		0		<0.010			
Vinyl chloride	ND δ10	θ.δ ₁₀	θ.δ10	0		<0.010			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		Lab Sample No	35374-73	
Client	د ہے −یہ جی	Field Sample No.		S2-2.5-ITC
Project AF Plant 42		Date Collected _		
Client No.		Date Received		
Laboratory Supervisor Approval:		Date Analyzed _		
		QC_Report_No		
Sample Matrix:				
/_/ Water (ug/L)		Dilution Factor	N/A	
/X / Soil (ug/g)	· · · ·	*Moisture		 %
/_/ Other				
Spike Source		<u></u>		

Compound	Det Lim	Concentration Det Lim Column 2		Retent	Retention Time		
Benzyl chloride	0.010	ND<0.010	CO TURNIT 2	COTUMNIT	Column 2	Notes	
Bis(2-Chloroethoxy)methane	0.010	ND<0.010			 		
					ļ	-	
Bis(2-chloroisopropyl)ether	0.010	ND<0.010			ļ		
Bromobenzene	0.010	_ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010				,	
Bromomethane	0.010	ND<0.010				-	
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010					
Dibromochloromethane	0.010	ND<0.010					

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB2 SS2 2.5' ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dibromomethane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010					
1,1-Dichloroethane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	ND<0.010					
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-TetrachToroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010				 	
Vinyl chloride	0.010	ND<0.010					

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394		<u> </u>	ab Sample				
Client Project AF Plant 42 Client No. Laboratory Supervisor Approve		F	ield Sampl	e No. <u>2-Ph</u>	2-PWD2-SB2-SS5-10-ITC		
Project AF Plant 42	 	· · · · · · · · · · · · · · · · · · ·	ate Collec	ted <u>12/1</u>	6/85		
Client No.		· · · · · · · · · · · · · · · · · · ·	ate Receiv	ed <u>12/1</u>	9/85		
Laboratory Supervisor Approve	17:	· · · · · · · · · · · · · · · · · · ·	ate Analyz	ed <u>12/3</u>	1/85	·	
	<u></u>	· · •	C Report N	o <u>-8010</u>	1-12	-	
Sample Matrix: /_/ Water (ug/L) /_/ Soil (ug/g) // Other				· · · ·			
ZX / Soil (ug/L)		L	illution Fa	ctor	N/A		
/// / Other		^r, 	oisture			*	
Spike Source		-					
				- 1			
Compound		oncentrati		Retenti Column 1	on Time Column 2	Notes	
Benzyl chloride	0.010	ND<0.010					
Bis(2-Chloroethoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010					
Bromomethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010					
Dibromochloromethane	0.010	ND<0.010					

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB2 SS5 10' ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroetnylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				<u> </u>
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				<u> </u>

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		Lab Sample No	35374-71	
Client	· · · · · ·	Field Sample No.	2-PWD2-SB2-SS10-30-	ITC
Project AF Plant 42		Date Collected	12/17/85	
Client No.	-	Date Received _	12/19/85	·
Laboratory Supervisor Approval:		Date Analyzed _	12/31/85	
		QC Report No	.8010-12	
Sample Matrix:			<u>.</u>	_
/_/ Water (ug/L)		Dilution Factor	N/A	
<u>/X</u> / Soil (ug/g)		*Moisture	· · · · · · · · · · · · · · · · · · ·	%
/_/ Other	· · · · · · · · · · · · · · · · · · ·			
Spike Source				

Compound	Det Lim	Concentratio	Column 2	Retenti Column 1	on Time	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				·
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB2 SS10 30' ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		Lab Sample No	35374-79	
Client	Server Server W	Field Sample No.	2-PWD2-SB2-	SS14-50-ITC
Project AF Plant 42				
Client No. 19 10 10 10 10 10 10 10 10 10 10 10 10 10		Date Received	12/19/85	
Laboratory Supervisor Approval:		Date Analyzed _	12/31/85	
		QC Report No	8010-12	
Sample Matrix:				
/_/ Water (ug/L) /X / Soil (ug/g) /_/ Other	<u> *</u>			<u> </u>
Spike Source				
				1

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				•
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				<u> </u>
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB2 SS14 50' ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.016				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1.2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				<u> </u>
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

S	W Method 8	010			
	L	ab Sample	No. <u>3537</u>	4-70	
<u> </u>	0				
	· ~ · D	ate Receiv	ed - <u>12/1</u>	9/85	
al:	Date Analyzed <u>12/31/85</u>				
	Q	C Report N	lo8010)-12	
	مد با مراد				
	ם	ilution Fa	ictor	N/A	
	*M	loisture _			
				<u> </u>	
 			-		
Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
0.010	ND<0.010				
0.010	ND<0.010				
0.010	ND<0.010				
0.010	ND<0.010		~		
0.010	ND<0.010				
0.010	ND<0.010				
T	i	}	Į.	l I	
0.010	ND<0.010				
0.010	ND<0.010 ND<0.010				
	Det Lim 0.010 0.010 0.010 0.010	Concentrati Det Lim Column 1 0.010 ND<0.010 0.010 ND<0.010 0.010 ND<0.010 0.010 ND<0.010 0.010 ND<0.010 0.010 ND<0.010	Field Sample Date Collect	Lab Sample No. 3537 Field Sample No. 2-Ph Date Collected 12/1 Date Received 12/2 12/3 QC Report No. 8010	Lab Sample No. 35374-70 Field Sample No. 2-PWD2-SB3-SS2 Date Collected 12/17/85 Date Received 12/19/85 Date Analyzed 12/31/85 QC Report No. 8010-12 Dilution Factor N/A *Moisture

ND<0.010

0.010

0.010

0.010

0.010

0.010

0.010

0.010

0.010

0.010

0.010

continued on next page

2-Chloroethyl vinyl ether

Chloromethyl methyl ether

Dibromochloromethane

Chloral

Chlorobenzene

Chloroethane

1-Chlorohexane

Chloromethane

Chlorotoluene

Chlaroform.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB3 SS2 2.5' ITC

	Co	ncentratio	n_	Retenti	<u> </u>	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				<u> </u>
Dicnloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichioroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichiorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Client Project AF Plant 42 Client No. Laboratory Supervisor Approval: Sample Matrix:		 	Date Collect Date Receiv Date Analyz QC Report N Dilution Fa	ted <u>12/</u> red <u>12/</u> red <u>12/</u> red <u>12/</u>	MD2-SB3-SS5 17/85 19/85 31/85 0-12 N/A	
	C	oncentrati	on	Retenti	on Time	<u> </u>
Compound					Column 2	Notes
Benzyl chloride	0.010	ND<0.010				<u> </u>
Bis(2-Chloroethoxy)methane	0.010	ND<0.010		****		
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				-
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010	i			
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010	1			
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB3 SS5 10' ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dibromomethane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010					
1,1-Dichloroethane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	ND<0.010					
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dicnloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachioroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichioroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>			Lab Sample No. <u>35374-74</u>			
Client		F			D2-SB3-SS1	4-50-ITC
Project AF Plant 42	<u></u>	·	ate Collec	ted 12/-	18/85	
Client No.						
Laboratory-Supervisor-Approve	a]:		ate Analyz	ed <u>1-2/3</u>	31/85	
			C Report N	lo. <u>8010</u>)-12	
Sample Matrix:						
/_/ Water (ug/L) /X / Soil (ug/g)			ilution Fa	ictor	N/A	 .
/ <u>/</u> / Other			loisture			%
Spike Source						
		oncentrati	on	Retenti	on Time	
Compound	Det Lim		Column 2		Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010	~			
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				_
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB3 SS14 50' ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichioroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.300		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichioropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>		L	ab Sample	No. 3537	4-4	
Client		· · · · · F	ield Sampl	e No. <u>2-P</u>	ID2-SB3-SS1	0-30-ITC
Project <u>AF Plant 42</u>			ate Collec	ted <u>12/1</u>	7/85	
Client No.			ate Receiv	ed <u>12/1</u>	9/85	
Laboratory Supervisor Approva	a]:		ate Analyz	ed <u>1/2/</u>	′86	
	_	Q	C Report N	lo. <u>8010</u>	0-12	
Sample Matrix:		🗕 🕔	gerra i a		e jaget en en e	• •
/ / Water (ug/L)		ם א* י	ilution Fa	ictor	N/A	
<u>/X</u> / Soil (ug/g)		***	loisture			%
/ Other						
Spike Source						
				0-4		
Compound	Det Lim	oncentration 1			on Time Column 2	Notes
Benzyl chloride	0.010	ND<0.010				1: 7 2 2
		•				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				·
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				

ND<0.010

0.010

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Dibromochloromethane

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB3 SS10 30' ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010					
1,1-Dichioroethane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	0.042		5.8			
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachioroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394 Client		Ļ	ab Sample	No. <u>3537</u>	4-5	DUP
Client	· · ·	F	ield Sampl	e No. 2-Ph	D2-SB3-SS1	0-30-ITC
Project AF Plant 42			ate Collec	ted <u>12/1</u>	7/85	
Client No			ate Receiv	ed <u>- 12/1</u>	9/85	
Laboratory Supervisor Approva	11:	ם	ate Analyz	ed <u>1/2/</u>	86	
		. ,, <u>. ,</u> , , , ,	C Report N	lo. <u>8010</u>	-12	
Sample Matrix:						
/ / Water (ug/L) /X / Soil (ug/g)	*** *** ** ***		ilution Fa	ctor	N/A_	
<u>/X</u> / Soil (ug/g)			loisture 📜	-		%
/_/ Other						
Spike Source						
	c	oncentrati	cn	Retenti	ntion Time	
Compound	Det Lim	Column 1	Column 2		Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				-

Chloromethane ND<0.010 0.010 ___ ----Chloromethyl methyl ether 0.010 ND<0.010 Chlorotoluene 0.010 ND<0.010 -------Dibromochloromethane ND<0.010 0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

0.010

0.010

0.010

0.010

0.010

0.010

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2-Chloroethyl vinyl ether

Chloral

Chlorobenzene

Chloroethane

1-Chlorohexane

Chloroform

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB3 SS10 30' ITC DUP.

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				<u> </u>
Dichloromethane	0.010	0.084		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35374-6	SPIKE
Client	Field Sample No.		
Project AF Plant 42	Date Collected _	12/17/85	
Client No.	Date Received	12/19/85	· -
Laboratory Supervisor - Approval:	Date Analyzed	1/2/86	
	QC Report No.	8010-12	· · · · · · · · · · · · · · · · · · ·
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		%
Spike Source			

				Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				· · · · ·
Bromodichloromethane	0.010	0.052		13.7		
Bromoform	0.010	0.048		8.9		
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	0.045		13.1		
Chloroacetaldehyde	0.010	ND<0.010				- 1
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	0.053		23.7		
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	0.052		10.8		
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	0.192		16.4		

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2 PWD2 SB3 SS10 30' ITC SPIKE

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	0.053		9.6		
1,2-Dichioroethane	0.010	0.056		11.6		
1,1-Dichloroethylene	0.010	0.047		8.4		
trans-1,2-dichloroethylene	0.010	0.046		10.8		
Dichloromethane	0.010	0.129		5.8		
1,2-Dichloropropane	0.010	0.063		15.0		
1,3-Dichloropropylene	0.010	0.192		16.4		
1,1,2,2-Tetrachloroethane	0.010	0.106		21.4		
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	0.106		21.4		
1,1,1-Trichloroethane	0.010	0.054		12.8		
1,1,2-Trichloroethane	0.010	0.192		16.4		
Trichloroethylene	0.010	0.070		15.8		
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

Lab Sample Nos. 2 PWD2 SB-3 SS2 2.5' ITC	QC Report No. <u>8020-11</u>
Duplicates <u>38374-34, 35374-4</u> 2	Date Analyzed <u>1/3/86</u>
Spike <u>35374-43</u>	Laboratory Supervisor Approval:
Sample Matrix:	
/_/ Water (ug/L)	Dilution Factor N/A
<pre>/X / Soil (ug/Kg)</pre>	*Moisture%
/_/ Other	
Spike Source	

		0				Carilla Ba			
			Duplicates		Spike Recovery				 ∤ !
Compound	Blank	<u>C1</u>	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<]		!		
Benzene	0.005	0.005	0.005		0.064	<0.005	0.067	105	
	ND<	ND<	ND<						
Chlorobenzene	0.005	0.005	0.005		0.056	<0.005	0.041	73	
	ND<	ND<	ND<						
1,2-Dichlorobenzene_	0.005	0.005	0.005		0.103	<0.005	0.077	75	
	ND<	ND<	ND<						
1,3-Dichlorobenzene	0.005	0.005	0.005		0.102	<0.005	0.076	75	
	ND<	ND<	ND<						
1,4-Dichlorobenzene	0.005	0.005	0.005		0.088	<0.005	0.062	70	
	NO<	ND<	ND<						
Ethyl benzene	0.005	0.005	0.005		0.054	<0.005	0.038	70_	
	ND<	ND<	ND<						
Toluene	0.005	0.005	0.005		0.056	<0.005	0.045	80	
	ND<	ND<	ND<						
Xylenes (Dimethyl benzene)	0.005	0.005	0.005			<0.005			_
					<u> </u>				
 	1				! }		1		

ES Job No. <u>56394</u>			ab Sample				
Client			ield Sampl				
Project AF Plant 42			ate Collec				_
Client No.							
Laboratory Supervisor Appro	oval:	D	ate Analyz	ed <u>1/2/</u>	85		
		Q	C Report N	o. <u>8020</u>	-11		_
Sample Matrix:							
\angle / Water (ug/L)		D	ilution Fa	ctor	N/A		-
<u>/X</u> / Soil (ug/Kg)		*M	oisture		··-		%
/_/ Other							_
Spike Source							_
							
1	Co	ncentratio	n	Retenti	etention Time		
Compound		Column 1				Notes	
				00 1011111	CO TOMIT Z	Mores	
Benzene	0.005	ND<0.005				Notes	
Benzene Chlorobenzene	0.005					Notes	
		ND<0.005				Notes	
Chlorobenzene	0.005	ND<0.005 ND<0.005				Notes	
Chlorobenzene 1,2-Dichlorobenzene	0.005	ND<0.005 ND<0.005 ND<0.005				Notes	
Chlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene	0.005 0.005	ND<0.005 ND<0.005 ND<0.005 ND<0.005				Nutes	

Xylenes (Dimethyl benzene) | 0.005 | ND<0.005

ES Job No. 56394		L	ab Sample	No. <u>3537</u>	14-28		
Client		F	ield Sampl	e No. 2 Ph	ND2 SB2 SS5	10' IT	
Project AF Plant 42		0	ate Collec	ted			
Client No.			ate Receiv				
Laboratory Supervisor Approv		D	ate Analyz	ed 1/2/	⁷ 85		
	_	Q	C Report N	0. 8020)-11		
Sample Matrix:							
// water (ug/L)		۵	dilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/Kg)		*M	loisture				
// Other				· · · · · · · · · · · · · · · · · · ·			
Spike Source			·				
						τ	
	Co	ncentratio	in	Retenti	Retention Time		
Compound	Det Lim				Column 2	Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
					 		
1,2-Dichloropenzene	0.005	ND<0.005				ļ	
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichlorobenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
	1	110 10:000			 	<u> </u>	
Xylenes (Dimethyl benzene)	0.005	ND<0.005				ļ	
	 	1	1	·	 	†	

ES Job No. 56394		L	ab Sample	No. 3537	74-29			
Client		F	Field Sample No. 2 PWD2 SB2 SS10 30					
Project AF Plant 42			Date Collected					
Client No.				red <u>12/1</u>				
Laboratory Supervisor Approval:			Date Analyzed <u>1/2/85</u>					
		Q	C Report N	io. <u>8020</u>	0-11			
Sample Matrix:								
// Water (ug/L)		D	Dilution Factor N/A					
<u>/X</u> / Soil (ug/Kg)		×Μ	*Moisture					
/_/ Other							_	
Spike Source					<u> </u>			
			-	1		 	}	
	Co	ncentratio	n	Retenti	ion Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzene	0.005	ND<0.005						

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ES Job No. 56394		Lab Sample No. <u>35374-31</u>							
Client		Field Sample No. 2 PWD2 SB2 SS14 50							
Project AF Plant 42 Client No. Laboratory Supervisor Approval:			Date Collected 12/17/85 Date Received 12/19/85						
									Date Analyzed _
					Q	C Report N	io. <u>8020</u>	-11	
Sample Matrix:									
/ / Water (ug/L)		ם	Dilution Factor N/A						
<pre>/X / Soil (ug/Kg)</pre>		*M	*Moisture						
/_/ Other									
Spike Source									
1			·	γ				\neg	
	Co	ncentratio	n	Retenti	on Time				
Compound	Det Lim	Column 1	Column 2	Column 1	Column	2	Notes	5	
Ranzana	0.005	ND<0.005				İ			

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichlorobenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					

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Toluene

Xylenes (Dimethyl benzene)

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No56394		Lab Sample No.			35374-34			
Client		Field Sample No.			D2 SB3 SS2	2.5' ITC		
Project AF Plant 42								
Client No.					12/19/85			
Laboratory Supervisor Appl					1/2/85			
					8020-11			
Sample Matrix:			•					
<pre>/_/ Water (ug/L)</pre>		0	ilution Fa	ctor	N/A			
/X / Soil (ug/Kg)			loisture					
/ Other								
Spike Source								
<u></u>						1		
 	Co	ncentratio	ın	Retenti	on Time			
Compouna		Column 1				Notes		
Benzene	0.005	ND<0.005						
Chlorobenzene	0.005	ND<0.005						
1,2-Dichlorobenzene	0.005	ND<0.005						
1,3-Dichlorobenzene	0.005	ND<0.005						
1,4-Dichlorobenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						

ND<0.005

ND<0.005

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

0.005

0.005

ES Job No56394		Ĺ	ab Sample	No. <u>3537</u>	<u>4-42 DUP.</u>	
Client		F	ield Sampi	e No. 2 PW	D2 SB3 SS2	2.5' ITC
Project AF Plant 42		C	ate Collec	ted <u>12/1</u>	6/85	
Client No.			ate Receiv	ed <u>12/1</u>	9/85	
Laboratory Supervisor Approve			ate Analyz			
		Ç	C Report N	o. <u>8020</u>	-11	
Sample Matrix:						
/_/ Water (ug/L)			ilution Fa	ctor	N/A	
<pre>/X / Soil (ug/Kg)</pre>		*	loisture	··_		%
/_/ Other						
Spike Source						
	Co	ncentratio	on	Retenti	on Time	
Compound			Column 2			Notes
Benzene	0.005	ND<0.005				
Chioropenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Etnyì benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
	1		1	1		

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ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES JOD NO	Lab Sample No	35374-43 SPIKE
Client	Field Sample No.	2 PWD2 SB3 SS2 2.5' ITC
Project AF Plant 42	Date Collected _	12/16/85
Client No.	Date Received _	12/19/85
Laporatory Supervisor Approval:	Date Analyzed	1/3/85
	QC Report No	8020-11
Sample Matrix:		
<pre>// Water (ug/L)</pre>	Dilution Factor	N/A
<pre>/X / Soil (ug/kg)</pre>	*Moisture	
/_/ Other		
Spake Source		

Co	Concentration			Retention Time	
Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
0.005	0.067		2.6		
0.005	0.041		8.0		
0.005	0.077		14.5		
0.005	0.076		13.0		
0.005	0.062		12.7		
0.005	0.038		7.4		
0.005	0.045		4.8		
0.005					
	Det Lim 0.005 0.005 0.005 0.005 0.005	Det Lim Column 1 0.005 0.067 0.005 0.041 0.005 0.077 0.005 0.076 0.005 0.062 0.005 0.038 0.005 0.045	Det Lim Column 1 Column 2 0.005 0.067 0.005 0.041 0.005 0.077 0.005 0.076 0.005 0.062 0.005 0.038 0.005 0.045	Det Lim Column 1 Column 2 Column 1 0.005 0.067 2.6 0.005 0.041 8.0 0.005 0.077 14.5 0.005 0.076 13.0 0.005 0.062 12.7 0.005 0.038 7.4 0.005 0.045 4.8	Det Lim Column 1 Column 2 Column 1 Column 2 0.005 0.067 2.6 0.005 0.041 8.0 0.005 0.077 14.5 0.005 0.076 13.0 0.005 0.062 12.7 0.005 0.038 7.4 0.005 0.045 4.8

Toluene

Xylenes (Dimethyl benzene)

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Jop No56394		L	ab Sample	No. <u>3537</u>	4-27	
Client		F	ield Sampl	e No. 2 PW	D2 SB3 SS	10' ITC
Project <u>AF Plant 42</u>		D	ate Collec	ted <u>12/1</u>	7/85	
Client No		D	ate Receiv	ed <u>12/1</u>	9/85	
Laboratory Supervisor App		٥	ate Analyz	ed <u>1/2/</u>	85	
		Q	C Report N	o. <u>8020</u>	-11	
Sample Matrix:						
// Water (ug/L)		ם	ilution Fa	ctor	N/A _	
/X / Soil (ug/Kg)		*M	loisture			
/_/ Other						
Spike Source						
	-					,
	Co	ncentratio	'n	Retenti	on Time	
Compound		Column 1			Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichioropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
		+ · · · ·	 	 	 	

ND<0.005

ND<0.005

0.005

0.005

Client AF Plant 42		ם	ield Sampl ate Collec	ted <u>12/1</u>	7/85	
Client No.			ate Receiv	ed <u>12/1</u>	9/85	
Laboratory Supervisor Approv	aì:		ate Analyz			
		Q	C Report N	o. <u>8020</u>)-11	
<pre>Sample Matrix: /_/ Water (ug/L) /X / Soil (ug/Kg) /_/ Other</pre>			ilution Fa			
Spike Source					·	
		ncentratio	,	Retenti	, 	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
_		1			1	1

	Concentration			Retention Time		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	NO<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		Ĺ	ab Sample	No. <u>3537</u>	4-33	
Client		F	ield Sampl	e No. 2 PM	ID2 SB3 SS1	4 50' I
Project AF Plant 42		D	ate Collec	ted <u>12/1</u>	8/85	
Client No.		D	ate Receiv	red <u>12/1</u>	9/85	
Laboratory Supervisor Approva		D	ate Analyz	ed <u>1/2/</u>	85	
		Q	C Report N	o. <u>8020</u>	-11	
Sample Matrix:						
// Water (ug/L)		D	ilution Fa	ctor	N/A	
<pre>/X / Soil (ug/Kg)</pre>		*M	loisture		· · · · · · · · · · · · · · · · · · ·	
/_/ Other						
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compound		Column 1				Notes
Benzene	0.005	ND<0.005				
Cnlorobenzene	0.005	ND<0.005				
1,2-Dichiorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				



ANALYTICAL SERVICES



Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 October 8, 1986

Attn: Dennis R. Kasper

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December 20, 1985

56394

35393/lac

REVISED REPORT

Four (4) soil samples.

Sample	Date	<u>Time</u>
2-PwD2-SB4-SS2-2.5-ITC	12-18-85	1200
2-PWD2-SB4-SS5-10-ITC	12-18-85	1200
2-PWD2-SB4-SS10-30-ITC	12-18-85	1400
2-PWD2-SB4-SS14-50-ITC	12-19-85	0900

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were extracted according to CAM Title 22 and analyzed by AAS and ICP. The samples were analyzed on a soluble basis, therefore they are reported as Milligrams Per Liter(mg/L). Unable to do spikes on a soluble extract without changing the extraction conditions. The phenols were distilled and determined colorimetrically according to Standard Methods 510C. The results are listed in Table I.

Also, the samples were extracted according to EPA Method 3550 and then analyzed for total recoverable oil and grease by EPA Method 413.2. The results are listed in Table II, and the Quality Control Data is listed in Table III.

William P. Fassinger

Chemist

William P. Fa

Richard L. Merrell Laboratory Director

October 8, 1986 JN: 35393 - Page 2

Table I

	Milligrams/liter							
	2-PWD2-SB4- SS2-2.5'-ITC	2-PWD2-SB4- SS5-10'-ITC	2-PWD2-SB4- SS10-30'-ITC	2-PWD2-SB4- SS14-50'-ITC				
Arsenic	ND<0.05	0.06	ND<0.06	ND<0.06				
Barium	6.4	1.5	2.3	2.4				
Cadmium	ND<0.03	0.04	ND<0.03	0.07				
Total chromium	ND<0.06	0.06	0.06	0.28				
Lead	ND<0.2	ND<0.2	ND<0.2	0.2				
Mercury	0.003	0.005	0.003	0.005				
Selenium	ND<0.005	ND<0.005	ND<0.005	ND<0.005				
Silver	ND<0.07	ND<0.07	ND<0.07	ND<0.07				
Pnenol∗	0.92	0.08	0.16	0.08				

Date Analyzed: 12/24/85

 \star - Phenol results in micrograms per grams(ug/g); phenols analyzed 12/21/85.

Date Analyzed: 12/24/85

<u>Table II</u>

Sample: AF Plant 42-IRP II ES Job #56394

Date of Analysis: 1/2/86

Total Oil and Grease(ug/g)

2-PWD2-SB4-SS2-2.5'-ITC	3
2-PWD2-SB4-SS5-10'-ITC	ND<2
2-PWD2-SB4-SS10-30'-ITC	ND<2
2-PWD2-SB4-SS14-50'-ITC	ND<2

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Table III Quality Control Data

Total Oil and Grease(ug/g) 2-PwD2-SB4-SS2-2.5'-ITC 2-PwD2-SB4-SS2-2.5'-ITC Dup Relative Percent Difference: 0 2-PwD2-SB4-SS2-2.5'-ITC Spike Spike Amount 36 Spike Amount

Percent Recovery: 110

Date Analyzed: 01/02/86

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No	<u>5'-IT</u> (
Project AF Plant 42 Date Collected 12/18/85	
Client No Date Received12/20/85	
Laboratory Supervisor Approval: Date Analyzed 1/2/86	
QC Report No8010~12	
Sample Matrix:	
/_/ Water (ug/L) Dilution Factor N/A	
<u>/X</u> / Soil (ug/g) *Moisture	
/_/ Other	
Spike Source	

	Concentration		Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropy1)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

2-PWD2-SB4-SS2-2.5'-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				····
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.032		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroetnane	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
1,1,1,2-Tetrachicroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				<u></u>
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No	35393-88
Client	Field Sample No.	2-PWD2-SB4-SS5-10'-ITC
Project AF Plant 42	Date Collected _	12/18/85
Client No.	- Date Received	12/20/85
Laboratory Supervisor Approval:	Date Analyzed _	1/2/86
	QC Report No.	8010-12
Sample Matrix:		· · · · · · · · · · · · · · · · · · ·
// Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
// Other		
Spike Source		

0	Concentration		Retention Ti			
Compound	Det Lim	Column I	Column 2	Column I	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				_
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	010.C>QN				
Chloromethy: methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY malogenated Volatile Organics Sw Method 8010

2-PWD2-SB4-SS5-10'-ITC

	Co	incentratio		Retenti		
Compound	Det Lim		Column 2	Column 1	Column 2	Notes
Dipromometrane	0.010	ND<0.010		<u> </u>		
Dichlorodifluoromethane	0.010	ND<0.010			<u> </u>	
1,1-Dichloroethane	1.010	ND 0 010				
1,2-Dichionoethane	1 3.0.0	! ND<0.010				
<u>1,1-Dichlargeth</u> , ene		<u> NDKG.010</u>	i •			
trans-1,2-digrimm/erm, ere		_N2k0. <u>01</u> 0	•	<u> </u>	<u> </u>	-
<u>Dranionamethane</u>		1,541		5.8	ļ i	
<u> </u>		N. 14 C. 1810			<u> </u>	
<u>i</u> lg-Qhablanaghgay eng		. N.S. <u>12.</u> .	•		<u> </u>	
2,2-jernach inderna e		. \ 2+9.0 <u>1</u> 0	• · · · · · · · · · · · · · · · · · · ·			·
<u>.,.,.,2-jetha</u> on phoethach	•	No. 1.010	· 	<u> </u>	<u> </u>	·
<u>Tethach undern, ere</u>		. <u>No</u> valog <u>i</u> a	·	·		
<u>ivivi-Indan</u> kog e thare		N. 11.213	• ·		1	
<u></u> 4-Inigh bhu e thane	•		•	i		
Intonionpethy ene	9.3.3	N2 40.010	·	<u> </u>	<u> </u>	,
<u>Intonlonof</u> juonom e trane		<u> </u>			<u> </u>	
<u>Intonianophopare</u>	<u>_0.0:</u> 0	<u> Nakalata</u>	•	! •	!	
<u>Vinyi orionide</u>		ND < 0.010			! !	

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No.	35393-89
Client	-	2-PWD2-SB4-SS14-50'-IT0
Project AF Plant 42	Date Collected _	
Client No.	Date Received	
Laboratory Supervisor Approval:	Date Analyzed _	1/2/86
	QC Report No.	8010-12
Sample Matrix:	_	
/_/ Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chloratoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2-PWD2-SB4-SS14-50'-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	0.010		9.6		
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.171		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroetname	0.010	ND<0.010				
1,1,2-Tricnloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				-
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35393-90
Client	Field Sample No.	2-PWD2-SB4-SS10-30'-ITG
Project AF Plant 42	Date Collected	12/18/85
Client No.	Date Received	
Laboratory Supervisor Approval:	Date Analyzed	1/2/86
	QC Report No.	8010-12
Sample Matrix:		
// Water (ug/L)	Dilution Factor _	N/A
	*Moisture	%
/_/ Other		
Spike Source		

	Concentration		Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010		1		
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2-PWD2-SB4-SS10-301-1TC

	Co	ncentratio	n	Retent		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromometnane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichioroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichicroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.017		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetracnioroethane	0.010	ND<0.010				
1,1,1,2-Tetracnicroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Tricnlorcethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

Lab Sample Nos. 2-PWD2-SB4-SS14-50'-ITC	QC Report No. <u>8020-12</u>
Duplicates <u>35393-49, 35393-5</u> 0	Date Analyzea <u>1/3/86</u>
Spike 35393-51	Laboratory Supervisor Approval:
Sample Matrix:	
/_/ Water (ug/L)	Dilution Factor N/A
<u>/X</u> / Soil (ug/g)	*Moisture%
/ Other	
Spike Sounce	

		Duplicates			Spike Recovery				
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<						
Benzene	0.005	0.005	0.005		0.064	<0.005	0.052	81	ļ
	ND<	ND<	ND<						
Chloropenzene	0.005	0.005	0.005		0.056	<0.005	0.049	88	
	ND<	ND<	ND<						
1,2-Dichlorobenzene	0.005	0.005	0.005		0.103	<0.005	0.094	91	
	ND<	ND<	ND<						
1,3-Dichlorobenzene	0.005	0.005	0.005		0.102	<0.005	0.091	89	
	ND<	ND<	ND<						
1,4-Dichlorobenzene	0.005	0.005	0.005		0.088	<0.005	0.080	91	<u> </u>
	ND<	ND<	ND<						
Ethyl benzene	0.005	0.005	0.005		0.054	<0.005	0.038	70	
	ND<	ND<	ND<						
Toluene	0.005	0.005	0.005		0.056	<0.005	0.054	96	
	ND<	ND<	ND<		!				i
Xylenes (Dimethyl penzene)	0.005	0.005	0.005			<0.005			1
			l i						
	-	1							1
			i					_	
	ļ	ļ							1
		İ	j l						i
	j	1	! !		[[]		ļ

ES Job No. 56394		L	ab Sample	No. <u>3539</u>	3-48	
Client	Field Samp			e No. 2-PW	D2-SB4-SS2	-2.5'-170
Project AF Plant 42			ate Collec	ted $\frac{12/1}{}$	8/85	
Client No.			ate Receiv			
Laboratory Supervisor Approva			ate Analyz			
•			C Report N			
Sample Matrix:			-			
/ / Water (ug/L)		E.	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)			loisture			
/ Other						
Spike Source	· · · · · · · · · · · · · · · · · · ·					
						 ,
	0-		_	Datanti	+ :	
Compound		ncentratio	Column 2	Retenti		Notes
	BCC E.III	00.12	00.74	30 13	00 14	THE COS
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
ofor ocenizeric	0.005	10000				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
	1	1				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
		<u> </u>	 			

ES Job No. <u>56394</u>		Ĺ	ap Sample	No. <u>3539</u>	13-47		
Client		Field Sample No. 2-PwD2-SB4-SS					
Project <u>AF Plant 42</u>							
Client No.		ō	ate Receiv	ed <u>12/2</u>	0/85		
Laboratory Supervisor Approva		D	ate Analyz	ed <u>1/3</u>	/86		
	_			08020			
Sample Matrix:							
<pre>/ Water (ug/L)</pre>		D	ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		★M	oisture				
/_/ Other							
Spike Source				·			
	1					<u> </u>	
	Co	ncentratio	n	Retenti	on Time		
Compound		Column 1			~~~~~~	Notes	
Benzene	0.005	ND<0.005					
Chloropenzene	0.005	ND<0.005		<u> </u>			
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichloropenzene	0.005	ND<0.005					
1,4-Dichloropenzene		ND<0.005					
Etnyl benzere		ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)		ND<0.005					
The state of the s	1						
	 						

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

1,3-Dichlorobenzene

1,4-Dichlorobenzene

Xylenes (Dimethyl benzene)

Etnyl benzene

Toluene

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

EC 300 No		1	ab Camala	No. 2520	2 46	
ES Job No. <u>56394</u>				No. 3539		0201 170
Client			•	e No. 2-PW		0-30 -110
Project AF Plant 42		υ	ate Collec	tea <u>12/1</u>	8/85	
Client No.		ם	ate Receiv	ed <u>12/2</u>	0/85	
Laboratory Supervisor Appr	oval:	0	ate Analyz	ed <u>1/3</u>	/86	
		Q	C Report N	o. <u>8020</u>	-12	
Sample Matrix:						
<pre>/ water (ug/L)</pre>		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture			
// Other						
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compound				Column 1		Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				

ND<0.005

ND<0.005

ND<0.005

ND<0.005

ND<0.005

ND - Inis compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

0.005

0.005

0.005

0.005

0.005

ES Job No. <u>56394</u>				Lab Sample No. <u>35393-49</u>					
Client				Field Sample No. 2-PWD2-SB4-SS14-					- (
Project				Ď	ate Collec	ted <u>12/1</u>	8/85		
Client No				D	ate Receiv	ed <u>12/2</u>	0/85		
Laboratory S				ם	ate Analyz	ed1/3	/86		
			_		C Report N				
Sample Matri	X:								
/_/ Water	(ug/L)			D	ilution Fa	ctor	N/A		
/X / Soil	(ug/g)								- ۹
/ Other									_
Spike Source									_
									_
			Co	ncentratio	n	_Retenti	on Time		
Com	pound		Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene			0.005	ND<0.005					

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichiorobenzene	0.005	ND<0.005				
1,4-Dignloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		Ĺ.	ab Sample	No. <u>3539</u>	3-50	DUP
Client		F	ield Sampl	e No. 2-Ph	D2-S34-SS1	4-50'-I
Project AF Plant 42		Date Collected <u>12/18/85</u>				
Client No.		D	ate Receiv	ed <u>12/2</u>	20/85	
Laboratory Supervisor Approve		D	ate Analyz	ed <u>1/3</u>	/86	
		Q	C Report N	o. <u>8020</u>	1-12	
Sample Matrix:						
// Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture			
/_/ Other						
Spike Source						
						7
	Co	ncentratio	n _	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2		Column 2	Notes
Benzene	0.005	ND<0.005				
Cnloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				 -
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ES Jop No56394			ab Sample			
Client			ield Sampl			
Project AF Plant 42			ate Collec			
Client No.			ate Receiv			
Laporatory Supervisor Approva	17:		ate Analyz			
		Q	C Report N	o. <u>8020</u>	-12	
Sample Matrix:						
<pre>/_/ Water (ug/L)</pre>		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		★ M	oisture			
/_/ Other						
Spike Source						· · · · · · · · · · · · · · · · · · ·
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	0.052		2.6		
Chlorobenzene	0.005	0.049		8.0		
1,2-Dichloropenzene	0.005	0.094		14.5		
1,3-Dichioropenzene	0.005	0.091		13.0		
1,4-Dichlorobenzene	0.005	0.080		12.7		
Ethyî benzene	0.005	0.038		7.4		
Toluene	0.005	0.054		4.8		
Xylenes (Dimethyl benzene)	0.005					



ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 October 8, 1986

Attn: Dennis R. Kasper

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December 21, 1985

56394

35401/lac

REVISED REPORT

Five (5) soil samples.

Sample	Date	<u>Time</u>
18-ADA2-SB1-SS5-10-ITC	12-19-85	1100
18-ADA2-SB1-SS8-20-ITC	12-19-85	1100
2-PWD2-SB5-SS5-10-ITC	12-19-85	1600
2-PWD2-SB5-SS10-30-ITC	12-20-85	0900
2-PWD2-SB5-SS14-50-ITC	12-20-85	0900

Three samples were extracted according to CAM Title 22 and analyzed by AAS and ICP. The samples were analyzed on a soluble basis, therefore they are reported as Milligrams Per Liter(mg/L). We were unable to do spikes on a soluble extract without changing the extraction conditions. The phenols were distilled and determined colorimetrically according to Standard Methods 510C. The results are listed in Table I.

The five samples were extracted according to EPA Method 3550 and then analyzed for total recoverable Oil and Grease by EPA Method 413.2 These results are listed in Table II, and the Quality Control Data is listed in Table III.

The five samples were also analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electroltyic conductivity detector. The samples were prepared according to EPA Method 8010.

Also, the samples were analyzed for aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director

Table I

Date Analyzed: 12/26/85

	Milligrams/liter					
	2-PWD2-SB5- SS14-50-'ITC	2-PW02-SB5- SS5-10'-ITC	2-PWD2-SB5- SS10-30'-ITC			
Arsenic	ND<0.05	ND<0.05	ND<0.05			
Barium	5.8	3.3	3.0			
Cadmium Total chromium	ND<0.03 0.18	0.04 0.07	ND<0.03 ND<0.07			
Lead	ND<0.2	ND<0.2	ND<0.2			
Mercury	0.004	0.004	0.004			
Selenium	0.022	0.012	0.019			
Silver	ND<0.03	ND<0.03	ND<0.03			
Phenoi*	ND<0.1	ND<0.1	0.1 (mg/Kg)			

^{*}Phenols are reported in Micrograms/grams (ug/g); Phenols analyzed on 1/3/86.

Table II

Sample:	AF Plant	42 IRP	ΙI	ES	Job	#56394
	Date Ar	nalyzed	1/	2/86	<u> </u>	

	Total Oil and Grease(ug/ g)
18-ADA2-SB1-SS5-10'-ITC	ND<2
18-ADA2-SB1-SS8-20'-ITC	ND<2
2-PWD2-SB5-SS5-10'-ITC	ND<2
2-PWD2-SB5-SS10-30'-ITC	ND<2
2-PWD2-SB5-SS14-50'-ITC	ND<2

May 8, 1986

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Table III

Quality Control Data Date Analyzed: 01/02/86

Total Oil and Grease(ug/g)

Relative Percent Difference: N/A

2-PWD2-SB5-SS5-10'-ITC Spike 28 Spike Amount 30

Percent Recovery: 93%

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35401-048
Client		2-PWD2-SB5-SS10-30-ITC
Project AF Plant 42 IRP II	Date Collected	12/20/85
Client No.	Date Received _	
Laboratory Supervisor Approval:	Date Analyzed	12/30/85
	QC Report No.	8010-12
Sample Matrix:		
// Water (ug/L)	Dilution Factor	N/A
/X / Soil (ug/g)	*Moisture	
// Other		
Spike Source		

	Concentration		Retention Time			
Compound	Det Lim		Column 2	Column 1		Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2-PWD2-SB5-SS10-30-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.172		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Tricnloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichlocopropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Client	ES Job No. 56394					Lab Sample No	35401-049		
Client No. Date Received 12/21/85 Laboratory Supervisor Approval: Date Analyzed 12/30/85 QC Report No. 8010-12 Sample Matrix: / Water (ug/L) Dilution Factor N/A /X / Soil (ug/g) *Moisture	Client	:	. * :	_ 	ž .	Field Sample No.	2-PWD2-SB5	-SS14-50-IT	[C
Laboratory Supervisor Approval: Date Analyzed 12/30/85 QC Report No. 8010-12 Sample Matrix: / Water (ug/L) Dilution Factor N/A /X / Soil (ug/g) *Moisture / - /_ / Other / /	Project	AF Plant	42 IRP II	<u> </u>		Date Collected _	12/20/85		
QC Report No. 8010-12 Sample Matrix: / Water (ug/L) Dilution Factor N/A /X / Soil (ug/g) *Moisture - % - / Other %	Client No.					Date Received	12/21/85		
Sample Matrix: / Water (ug/L) Dilution Factor	Laboratory	Supervisor	Approval:	:		Date Analyzed	12/30/85		
/ / Water (ug/L) /X / Soil (ug/g) *Moisture / Other		· · · · · · · · · · · · · · · · · · ·				QC Report No	8010-12		
<u>/X / Soil (ug/g) </u>	Sample Matr	ix:							_
<u>/X / Soil (ug/g) </u>	\angle _/ Wate	r (ug/L)				Dilution Factor	N/A		
- / / Other	/X / Soil	(ug/g)	-	-		*Moisture		· -	_ _%
	- /_/ Othe								_
	Spike Sourc	e							_

	Concentration		Retenti	on Time		
Compound	Det Lim	Column 1		Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				-1
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010		~		
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010		~		
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.01C				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2-PWD2-SB5-SS14-50-ITC

	Co	Concentration			Retention Time		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010					
1,1-Dichloroetnane	0.010	ND<0.010					
1,2-Dicnioroetname	0.010	ND<0.010					
1,1-Dichioroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	0.307		5.8			
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachloroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Vinyl chloriae	0.010	ND<0.010					

Engineering Science Page 8

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394					Lab Sample No	35401-050		
Client					Field Sample No.	18-ADA2-SE	1-SS5-10-1TD	
Project	AF Plant	42 IRP II			Date Collected _	12/19/85		
Client No.		· · ·	- *	-	Date Received _	12/21/85		
Laboratory	Supervisor	Approval:			Date Analyzed _	12/30/85		
				<u>.</u>	QC Report No	8010-12		
Sample Matr	ix:							
/_/ Wate	en (ug/L)				Dilution Factor	N/A		
<u>/x</u> / Soi*	(ug,'g)				*Moisture			
<u>/</u> / Othe	r <u></u>			–	· · · · · · · · · · · · · · · · · · ·			
Spike Sourc	:e					·		

	Concentration		Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
<u> Sromobenzene</u>	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				<u> </u>
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chlorcacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				± 1-
Chlorobenzene	0.010	ND<0.010				· =
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	b.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

18-ADA2-SB1-SS5-10-ITC

	Co	ncentratio	n	Retenti	Retention Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Diphomomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroetnane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroetnylene	0.010	ND<0.010				
Dichloromethane	0.010	0.267		5.8		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				_ .
Trichloroethylene	0.010	ND<0.010				
Trichlorofiuoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No563	94	Lab Sample No	35401-05CR
Client			2-PWD2-S85-SS5-10-ITC
Project AF Pla	nt 42 IRP II	Date Collecteu _	
Client No	<u> </u>	Date Received _	
Laboratory Supervise	or Approval:	Date Analyzed _	12/30/85
		QC Report No	8010-12
Sample Matrix:			
/ Water (ug/L)		Dilution Factor	N/A
/X / Soil (ug/g)		*Moisture	
<u>/</u> _/ Other			
Spike Source			

	Concentration		Retention Time			
bruoamoO	Det Lim		Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				· ·
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				-
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				***
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

2-PWD2-SB5-SS5-10-ITC

,	Co	Concentration		Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
<u> Bionlered:flueromethane</u>	0.010	ND<0.010				
	0.010	ND<0.010				
1,2-Dichlorcethane	0.010	ND<0.010				
	0.010	ND<0.010				
trans-1,2-dionicroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.021		5.8		
1,2-Dichionopropane	0.013	ND<0.010				
1,3-Dichlorophopylene	0.010	ND<0.010				
:,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachicroethane	0.010	ND<0.010				
Tethachlonoethylene	0.010	ND<0.010				
1,1,1-Trichîoroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
vanyl onlonae	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394			ab Sample	No. 3540	1-051R		
Client		F-5	Date Received 12/21/85 Date Analyzed 12/30/85				
Project AF Plant 42 IRP	<u>II</u>						
Client No							
Laboratory Supervisor Approva	١٦:						
	-		C Report N	lo. <u>8010</u>)-12		
Sample Matrix:							
/ Water (ug/L)		2	ilution Fa	ictor	N/A		
<u>/X /</u> Soil (ug/g)							
/ Other				<u> </u>			
Spike Source					·		
		oncentrati	on	Retenti	on Time		
Compound	Det Lim	Column 1			Column 2	Notes	
Benzyl chloride	0.010	ND<0.010				-	
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				-	
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010					
Bromonethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010	~				
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Chloroethare	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·	

ND<0.010

ND<0.010

continued on next page

0.010

0.010

Chlorotoluene

Dibromochloromethane

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

18-ADA2-SB1-SS8-20-ITC

	Co	ncentratio	n _	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	momethane 0.010 ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.064		5.8		
1,2-Dicnloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				··
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroetname	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyī chloriae	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		Ĺ	ab Sample	No. <u>3540</u>	1-12	
Client		F	ield Sampl	e No. <u>18-A</u>	DA2-SB1-SS	5-10-IT
Project AF Plant 42		D	ate Coli e c	ted <u>12</u>	/19/85	
Client No.		D	ate Receiv	ed <u>12</u>	/21/85	
Laboratory Supervisor Approva		D	ate Analyz	ea <u>12</u>	/30/85	
		Q	C Report N	o. <u>80</u>	20-12	·
Sample Matrix:						
<u>/</u> / Water (ug/L)		ם	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		×́M	loisture			
/ Other						
Spike Source						
	1			<u> </u>		 ;
	Co	ncentratio	n	Retenti	on Time	
Compound		~~~	Column 2		Column 2	Notes
Benzene	0.005	ND<0.005				
Crlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
 Xylenes (Dimethyl benzene)	0.005	ND<0.005				

 $[\]mbox{ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		ι	ab Sample	No. <u>3540</u>	1-9	
Client		F	ield Sampl	e No. <u>18-A</u>	DA2-SB1-SS	8-20-ITC
Project AF Plant 42			ate Collec	ted <u>12</u>	/19/85	
Client No.		C	ate Receiv	ed <u>12</u>	/21/85	
Laboratory Supervisor Approva			ate Analyz	ed12	/30/85	
	_	Q	C Report N	o. <u>80</u>	20-12	
Sample Matrix:						
/_/ Water (ug/L)		0	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*	loisture			
// Other		<u>-</u>			 	
Spike Source						
	T	 		·		,
	Co	ncentratio	n	Retenti	on Time	
Compound			Column 2			Notes
Benzene	0.005	ND<0.005				
Cnlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyī benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ES Job No. 56394 Client					1-11 D2-SB5-SS5	
Project AF Plant 42					/19/85	
Client No.					/21/85	
Laboratory Supervisor Approva					/30/85	
, , , , , , , , , , , , , , , , , , , ,			C Report N			
Sample Matrix:		·				
<pre>// Water (ug/L)</pre>		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)						
/_/ Other						
Spike Source						
<u></u>						Ţ <u>·</u>
	Co	ncentratio	n	 Retenti	on Time	}
Compound					Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
	1			1	1	

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ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No56394	Lab Sample No.	35401-10
Client		2-PWD2-SB5-SS10-30-ITC
Project AF Plant 42		12/20/85
Client No.	Date Received	12/21/85
Laboratory Supervisor Approval:	Date Analyzed	12/30/85
	QC Report No.	8020-12
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
/X / Soil (ug/g)	*Moisture	%
/ Other		
Spike Source		
		·
	Concentration Re	etention Time

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichioropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005			~	

ES Jop No56394		L	ab Sample	No. 3540	1-8	
Client			ield Sampl			
Project AF Plant 42			ate Collec			
Client No.		D	ate Receiv	ed <u>12</u>	/21/85	
Laboratory Supervisor Approva		D	ate Analyz	ed12	/30/85	
	_	Q	C Report N	o. <u>80</u>	20-12	
Sample Matrix: _/_/ Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X_</u> / Soil (ug/g) <u>/_</u> / Other		*M	oisture			
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnlorobenzene	0.005	ND<0.005	~			
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimetnyl benzene)	0.005	ND<0.005				



ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 October 8, 1986

Attn: M.A. Guthrie

Page 1 of 23

January 31, 1986

56394

35730/lac

REVISED REPORT

Three (3) water samples.

Sample Number	Date	Time
DW3-1-ITC	1-30-86	0900
DW1-1-ITC	1-30-86	1030
DW8-1-ITC	1-30-86	1200

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 601.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 602. The results are listed on the following summary sheets.

One sample was also extracted according to soluble CAM Title 22 and analyzed by AAS. The cyanide was distilled and determined by Standard Methods 412B and 412E. The results are listed in the following metals and Environmental Quality Parameters summary sheets.

William F. Farmy

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director

Enganeering-Scaence

ANALYTICAL RESULTS SUMMARY Metals

Page: 2 Job #35730

ES Job No. 56394 Client Project No AF Plant 42 18P-11	42 189-11	Z III C	Samulo Matrix.		QC R Labo	QC Report No66700-6 Laboratory Supervisor Approval	66700 ervisor	-6 Approva	,
Client No. Oate Collected 1-30-86 Date Received 1-31-86	0-86 1-86	/	Water (ug/ml) Soil (ug/ml) Other	رر) ۱۱)	Dilu * Mo	Dilution Factor * Moisture			
Field Sample No.	Lab Sample No.	Ź			1	i i	*		
DW3-1-1TC	35730-1	ND<0.13							
Date Analyzed	2	2/6							
Analytical Method	*	ι <u>τ</u>			 				

F=F lame AAS -C=Cold Vapor AAS $-G=Graphit\ Furnace\ AAS$ $-H=Hydride\ Vapor\ AAS$ $-P=Inductively\ Coupled\ Plasma$

i = if % moisture is reported, results **
are presented on a dry-weight basis.

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QUALITY CONTROL RESULTS SUMMARY Metals

Page: 3 Report:

Laboratory Supervisor Approval: QC Report No.__ Dilution Factor *Moisture Water (ug/L) Soil (ug/ml) Other // Other Spike Source(s) Sample Matrix:

	Notes								IT	CORPORATION
	PR	97								
ecovery	SSR	3.89								
piked R	SR SSR	0	ſ							
	SA	4								
es	RPD	0.05								
uplicat	C2 RF	3.69		1						asis.
0	C1		i							eight b
	Blank	Ą								a dry-w
** Anal.	Method									presented on a dry-weight basis.
	Date Anal.	2/6								
Sample Nos.	Spike	35730-3								rted, results
Laboratory 5	Duplicates Spike	35730-2								<pre>If % moisture is reported, results ** are</pre>
Analyte	Metal	Nickel								* - If & mois

^{* -} If % moisture is reported, results ** are presented on a dry-weight basis.

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ANALYTICAL RESULTS SUMMARY Environmental Quality Parameters

Page: 4 Job #35730

Client Project No. AF Plant IRP-II	394 t IRP-11	Samp	Sample Matrix:	 *		QC R Labo	eport No ratory S	. 66700 uperviso	QC Report No. 66700-6 Laboratory Supervisor Approval:
Client No. Date Collected 1-30-86 Date Received 1-31-86	30-86	(X)	Water (ug/L) Soil (ug/ml) Other	ug/L) g/ml)		Dilu * Mo	Dilution Factor * Moisture		
Field Sample No.	Lab Sample No.	S	,	1					
DW3-1-11C	35730-1	ND<0.1							
									:
Date Analyzed	E	2/3/86							
Analytical Method	*	412E							

If \$ moisture is reported, results ** are presented on a dry-weight basis.

Engineering Science

Environmental Quality Parameters QUALITY CONTROL RESULTS SUMMARY

Job #35730 Page: 5

Sample Matrix:

Water (ug/L)

Soil (uq/ml)

Other

Spike Source(s)

Dilution Factor *Moisture

Laboratory Supervisor Approval: OC Report No. 412E

PR	112												
XSS	5.6												
SR	0												
SA	5						!						
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1												
C3	ND<0.1				: : :								
 C.1	ND<0.1									1			
Method	412-E												
Date Anal.	2/3/86												
Spike	35730-3												
Duplicates	35730-2												
Metal	Cyanide												
	Duplicates Spike Date Anal. Method Blank C1 C2 RPD SA SR SSR	Duplicates Spike Date Anal. Method Blank C1 C2 RPD SA SSR 35730-2 35730-3 2/3/86 412-E NA ND<0.1 ND<0.1 5 0 5.6	Duplicates Spike Date Anal. Method Blank C1 C2 RPD SA SR SSR 35730-2 35730-3 2/3/86 412-E NA ND<0.1 ND<0.1 5 0 5.6	Duplicates Spike Date Anal. Method Blank C1 C2 RPD SA SSR 35730-2 35730-3 2/3/86 412-E NA ND<0.1 ND<0.1 5 0 5.6	Duplicates Spike Date Anal. Method Blank C1 C2 RPD SA SSR 35730-2 35730-3 2/3/86 412-E NA ND<0.1 5 0 5.6	Duplicates Spike Date Anal. Method Blank C1 C2 RPD SA SSR 35730-2 35730-3 2/3/86 412-E NA ND<0.1 5 0 5.6	Ouplicates Spike Date Anal. Method Blank C1 C2 RPD SA SSR 35730-2 35730-3 2/3/86 412-E NA ND<0.1 5 0 5.6	9uplicates Spike Date Anal. Method Blank C1 C2 RPD SA SR SSR 35730-2 35730-3 2/3/86 412-E NA ND<0.1 5 0 5.6	95/30-2 35/30-3 2/3/86 412-E NA ND<0.1 ND<0.1 5 0 5.6	591ke Date Anal. Method Blank C1 C2 RPD SA SSR 35730-7 35730-3 2/3/86 412-£ NA ND<0.1 ND<0.1 5 0 5.6	5.6 35730-2 35730-3 2/3/86 412-E NA ND<0.1 5 0 5.6	35730-2 35730-3 273/86 412-E NA ND<0.1 ND<0.1 5 0 5.6	35730-2 35730-3 2/3/86 412-E NA ND<0.1 ND<0.1 5 0 5.6

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8916 EPA Method 601

Lab Sample Nos. DW3-1-ITC	QC Report No. 80	10-13
Duplicates <u>35730-3, 35730-6</u>	Date Analyzed 2-0	5-86
Spike <u>35730-4</u>	Laboratory Supervisor Ap	oproval:
Sample Matrix:		
<u>/X</u> / Water (ug/L)	Dilution Factor N/	4
<u>/</u> / Soil	*Moisture	%
// Other		
Spike Source		

		Duplicates		•	Srike	Recover			
Compound	Blank	CI	C2	מקא	SA	SR	SSR	PR	Notes
Benzyl chloride	ND<2	ND<2	ND<2			<2	i		
Bis(2-Chloroethoxy)methane	ND<2	ND<2	ND<2			<2			
Bis(2-chloroisopropyl)ether	ND<2	ND<2	ND<2			<2			
Bromobenzene	ND<2	ND<2	ND<2			<2			
Bromodichloromethane	ND<2	ND<2	ND<2		10	<2	12	120	
Bromoform	ND<2	ND<2	ND<2		10	<2	9.5	95	
Bromomethane	ND<2	ND<2	ND<2			<2			
Carbon tetrachloride	ND<2	ND<2	ND<2		10	<2	11	110	
Chloroacetaldehyde	ND<2	ND<2	ND<2			<2			
Chloral	ND<2	ND<2	ND<2			<2			
Chlorobenzene	ND<2	ND<2	ND<2		10	<2	11	110	
Chloroethane	ND<2	ND<2	ND<2			<2			
Chloroform	ND<2	ND<2	ND<2		10	<2	11	110	
1-Chlorohexane	ND<2	ND<2	ND<2			<2			
2-Chloroethyl vinyl ether	ND<2	ND<2	ND<2			<2			
Chloromethane	ND<2	ND<2	ND<2			<2			
Chloromethyl methyl ether	ND<2	ND<2	ND<2			<2		1	
Chlorotoluene	ND<2	ND<2	ND<2			<2			
Dibromochloromethane	ND<2	ND<2	ND<2		35	<2	34	97	

QUALITY CONTROL RESULTS SUMMARY Purgeaple Halocarbons EPA Method 601

DW3-1-ITC

	 								
		Duplicates			Spike	Recove	ry.	}	
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
O-promomethane	ND<2	ND<2	ND<2			<2			
Dichlorodifluoromethane	ND<2	ND<2	ND<2			<2			
1,1-Dichloroethane	ND<2	ND<2	ND<2		10	<2	11	110	
 1,2-Bron oroethane	ND<2	ND<2	ND<2		10	<2	11	110	
1,1-Dichloroethylene	ND<2	ND<2	ND<2		10	<2	12	120	
trans-1,2-dichloroethylene	ND<2	ND<2	ND<2		10	<2	11	110	
Dichloromethane	ND<2	ND<2	ND<2		10	<2	6.5	65	
1,2-Dicnioropropane	ND<2	ND<2	ND<2		14	<2	15	107	
1.3-Dicnicropropylene	ND<2	ND<2	ND<2		35	<2	34	97	
1,1,2,2-Tetrachloroetname	ND<2	ND<2	ND<2		20	<2	21	105	
1,1,1,2-Tetrachloroethane	ND<2	ND<2	ND<2			<2			
Tetrachloroethylene	ND<2	ND<2	ND<2		20	<2	21	105	
1,1,1-Trichloroethane	ND<2	ND<2	ND<2		10	<2	9.3	93	
1,1,2-Trichloroethane	ND<2	ND<2	ND<2		35	<2	34	97	
Trichloroethylene	ND<2	ND<2	ND<2		10	<2	10	100	
Trichlorofluoromethane	ND<2	ND<2	ND<2			<2			
Trichloropropane	ND<2	ND<2	ND<2			<2			
Vinyl chloriae	ND<2	ND<2	ND<2			<2			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010 FPA Matural 60 1

	FAW WITTOWN OF		
ES Job No56394	Lab Sample No	35730-6	
Client	Field Sample No.	DW3-1-ITC	
Project <u>AF Plant 42</u>	Date Collected	1-30-86	
Client No.	Date Received	1-31-86	
Laboratory Supervisor Approval:	Date Analyzed	2-3-86	
	QC Report No.	8010-13	
Sample Matrix:			
/X / Water (ug/L)	Dilution Factor _	N/A	
<u>/</u> / Soil	*Moisture		 %
/_/ Other			
Spike Source			

Company	C	oncentrati	on	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	2	ND<2				
Bis(2-Chloroethoxy)methane	2	ND<2				
Bis(2-chloroisopropyl)ether	2	ND<2				
Bromotenzene	2	ND<2				
Bromodichloromethane	2	ND<2				
Bromoform	2	ND<2				
Bromomethane	2	ND<2				
Carbon tetrachloride	2	ND<2				
Chloroacetaldehyde	2	ND<2				
Chloral	2	ND<2				
Chlorobenzene	2	ND<2				
Chloroethane	2	ND<2				
Chloroform	2	ND<2				
1-Chlorohexane	2	ND<2				-
2-Chloroethyl vinyl ether	2	ND<2				
Chloromethane	2	ND<2				
Chloromethyl methyl ether	2	ND<2				·
Chlorotoluene	2	ND<2				
Dibromochloromethane	2	ND<2				

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

DW3-1-TTC

				,	UM3-	1-ITC
		ncentratio		Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromometnane	2	ND<2				
Dichiorodifluoromethane	2	ND<2				
1,1-Dichloroethane	2	ND<2				
1,2-Dichloroethane	2	ND<2				
1,1-Dichloroethylene	2	ND<2				
trans-1,2-dichloroethylene	2	ND<2				
Dichloromethane	2	ND<2				
1,2-Dichloropropane	2	ND<2				
1,3-Dichloropropylene	2	ND<2				
1,1,2,2-Tetrachloroethane	2	ND<2				
1,1,1,2-Tetrachlorcethane	2	ND<2				
Tetrachloroetnylene	2	ND<2				
1,1,1-Trichloroethane	2	ND<2				
1,1,2-Trichloroethane	2	ND<2				
Trichloroethylene	2	ND<2				
Trichlorofluoromethane	2	ND<2				
Trichloropropane	2	ND<2				
Vinyl chloride	2	ND<2				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

SW Method 8010 601

ES Job No. <u>56394</u>			Lab Sample	No	35730-8	
Client			Field Sampl			
Project AF Plant 42		1	Date Collec	ted	1-30-86	·
Client No.		1	Date Receiv	/ed	1-31-86	
Laboratory Supervisor Approva		1	Date Analyz	ed	2-3-86	·
		(QC Report N	lo	8010-13	 :
Sample Matrix:						.
/X / Water (ug/L)					N/A	
/_/ Soil			Moisture _			%
/ Other						
Spike Source	·			·		
	С	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column I	Column 2	Column 1	Column 2	Notes
Benzyl chloride	2	ND<2				
Bis(2-Chloroethoxy)methane	2	ND<2				
Bis(2-chloroisopropyl)ether	2	ND<2				
Bromobenzene	2	ND<2				
Bromodichloromethane	2	ND<2				
Bromoform	2	ND<2				
Bromomethane	2	ND<2				
Carbon tetrachloride	2	ND<2				
Chloroacetaldehyde	2	ND<2				
Chloral	2_	ND<2				
Chlorobenzene	2	ND<2				· · · · · · · · · · · · · · · · · · ·
Chloroethane	2	ND<2				
Chloroform	2	ND<2				
1-Chlorohexane	2	NO<2				
2-Chloroethyl vinyl ether	2	ND<2				
Chloromethane	2	ND<2				
Chloromethyl methyl ether	2	ND<2				
Chlorotoluene	2	ND<2				
Dibromochloromethane	2	ND<2				

ANALYTICAL RESULTS SUMMARY Purgeaple Halocarbons EPA Method 601

DW8-1-ITC

	,				DM8-	1-17C
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	2	ND<2				
Dichlorodifluoromethane	2	ND<2				
1,1-Dichloroethane	2	ND<2				
1,2-Dichloroethane	2	ND<2				
1,1-Dichloroethylene	2	ND<2				
trans-1,2-dichloroetnylene	2	ND<2				
Dichloromethane	2	ND<2				
1,2-Dichloropropane	2	ND<2				
1,3-Dichloropropylene	2	ND<2				
1,1,2,2-Tetrachloroethane	2	ND<2				
1,1,1,2-Tetrachloroethane	2	ND<2				
Tetrachloroethylene	2	ND<2				
1,1,1-Trichloroethane	2	ND<2				
1,1,2-Trichloroethane	2	ND<2				
Trichloroethylene	2	ND<2				
Trichlorofluoromethane	2	ND<2				
Trichloropropane	2	ND<2				
Vinyl chloride	2	ND<2				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010 PA M ACCORD 601

E	ALL TO TO CALL OF I		
ES Job No56394	Lab Sample No	35730-7	
Client	Field Sample No.	DW1-1-ITC	
Project AF Plant 42	Date Collected	1-30-86	
Client No.	Date Received	1-31-86	
Laboratory Supervisor Approval:	Date Analyzed	2-3-86	
	QC Report No	8010-13	
Sample Matrix:			
/X / Water (ug/L)	Dilution Factor $_$	N/A	
/ Soil	*Moisture		9
/_/ Other			
Spike Source			

	Concentration			Retenti	on Time	
Compound	Det Lim		Column 2	Column 1		Notes
Benzyl chloride	2	ND<2				
Bis(2-Chloroethoxy)methane	2	ND<2				
Bis(2-chloroisopropyl)ether	2	ND<2				
Bromobenzene	2	ND<2				
Bromodichloromethane	2	ND<2				
Bromoform	2	ND<2		~ ~ ~		
Bromomethane	2	ND<2				
Carbon tetrachloride	2	ND<2				
Chloroacetaldehyde	2	ND<2				
Chloral	2	ND<2				<u> </u>
Chlorobenzene	2	ND<2				
Chloroethane	2	ND<2				
Chloroform	2	ND<2				
1-Chlorohexane	2	ND<2				
2-Chloroethyl vinyl ether	2	ND<2				
Chloromethane	2	ND<2				
Chloromethyl methyl ether	2	ND<2				
Chlorotoluene	2	ND<2				
Dibromochloromethane	2	ND<2				

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

DW1-1-ITC

				DW1-1-ITC			
	Concentration				on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	2	ND<2					
Dichlorodifluoromethane	2	ND<2	-				
1,1-Dichloroethane	2	ND<2					
1,2-Dichloroethane	2	ND<2					
1,1-Dichloroethylene	2	ND<2					
trans-1,2-dichloroetnylene	2	ND<2					
Dichloromethane	22	ND<2					
1,2-Dichloropropane	2	ND<2					
1,3-Dichloropropylene	2	ND<2					
1,1,2,2-Tetrachioroethane	2	ND<2					
1,1,1,2-Tetrachloroethane	2	ND<2					
Tetrachloroethylene	2	ND<2					
1,1,1-Trichloroethane	2	ND<2					
1,1,2-Trichloroethane	2	ND<2					
Trichloroethylene	2	ND<2					
Trichlorofluoromethane	2	ND<2					
Trichloropropane	2	ND<2					
Vinyl chloride	2	ND<2					

 $[\]star$ - If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010 FOA Method 601

ES Job No56394	Lab Sample No	35730-3	
Client	Field Sample No.		
Project AF Plant 42	Date Collected	1-30-86	
Client No.	Date Received	1-31-86	
Laboratory Supervisor Approval:	Date Analyzed	2-6-86	
	QC Report No.	8010-13	
Sample Matrix:			
<u>/X</u> / Water (ug/L)	Dilution Factor _	N/A	
/_/ Soil	*Moisture		 %
/_/ Other			
Spike Source			

	Concentration		Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	2	ND<2				
Bis(2-Chloroethoxy)methane	2	ND<2				
Bis(2-chloroisopropyl)ether	2	ND<2				
Bromobenzene	2	ND<2				
Bromodichloromethane	2	ND<2				
Bromoform	2	ND<2				
Bromomethane	2	ND<2				
Carbon tetrachloride	2	ND<2				
Chlorcacetaldehyde	2	ND<2				
Chloral	2	ND<2				
Chlorobenzene	2	ND<2				
Chloroethane	2	ND<2				
Chloroform	2	ND<2				
1-Chlorohexane	2	ND<2				
2-Chloroethyl vinyl ether	2	ND<2				
Chloromethane	2	ND<2				
Chloromethyl methyl ether	2	ND<2				
Chlorotoluene	2	ND<2				*
Dibromochloromethane	2	ND<2				

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

DW3-1-ITC DUP.

						1-110
Compound		ncentratio	Column 2	Retenti Column 1	on Time	Niceon
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	2	ND<2				
Dichlorogifluoromethane	2	ND<2				
1,1-Dichloroethane	2	ND<2				
1,2-Dichloroethane	2	ND<2				
1,1-Dichloroethylene	2	ND<2				
trans-1,2-dichloroethylene	2	ND<2				
Dichloromethane	2	ND<2				
1,2-Dichioropropane	2	ND<2				
1,3-Dichloropropylene	2	ND<2				
1,1,2,2-Tetrachloroethane	2	ND<2				
1,1,1,2-Tetrachloroethane	2	ND<2				
Tetrachloroethylene	2	ND<2				
1,1,1-Trichloroethane	2	ND<2				
1,1,2-Trichloroethane	2	ND<2				
Trichloroetnylene	2	ND<2				
Trichlorofluoromethane	2	ND<2				
Trichloropropane	2	ND<2				
Vinyl chloride	2	ND<2				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics <u>SW Method 8010</u> PA Matural 60)

	1		
ES Job No. <u>56394</u>	Lab Sample No	35730-4	
Client	Field Sample No.	DW3-1-ITC SPIKE	
Project AF Plant 42	Date Collected	1-30-86	
Client No.	Date Received	1-31-86	
Laboratory Supervisor Approval:	Date Analyzed	2-6-86	
	QC Report No	8010-13	
Sample Matrix:			
<u>/X</u> / Water (ug/L)	Dilution Factor _	N/A	
/ Soil	*Moisture		<u> </u>
/_/ Other			
Snika Saurca			

	С	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	2	ND<2				
Bis(2-Chloroethoxy)methane	2	ND<2				
Bis(2-chloroisopropyl)ether	2	ND<2				
Bromobenzene	2	ND<2				- 1
Bromodichloromethane	2	12		13.8		
Bromoform	2	9.5		19.2		
Bromomethane	2	ND<2				
Carbon tetrachloride	2	11		13.3		
Chloroacetaldehyde	2	ND<2				
Chloral	2	ND<2				
Chlorobenzene	2	11		23.8		,
Chloroethane	2	ND<2				
Chloroform	2	11		11.0		
1-Chlorohexane	2	ND<2				
2-Chloroethyl vinyl ether	2	ND<2				
Chloromethane	2	ND<2				
Chloromethyl methyl ether	2	ND<2				
Chlorotoluene	2	ND<2				
Dibromochloromethane	2	34		16.6		

Vinyl chloride

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

DW3-1-ITC SPIKE Concentration Retention Time Det Lim | Column 1 | Column 2 Column 1 | Column 2 | Notes Compound ND<2 Dipromomethane 2 ND<2 <u>Dicniorodifluoromethane</u> 1,1-Dichloroetname 2 ___ 9.8 11 1,2-Dichloroetnane 2 11_ ___ 11.8 2 1,1-Dichloroethylene 12 ---8.7 2 trans-1,2-dichloroetnylene 11 ---10.6 Dichloromethane 2 6.5 6.0 ------2 1,2-Dichloropropane 10 ---15.1 ---1,3-Dichloropropylene 2 34 ---16.6 1,1,2,2-Tetrachioroethane 2 21 21.4 1,1,1,2-Tetrachloroethane 2 ND<2 Tetrachloroethylene 2 21 21.4 2 9.3 1,1,1-Trichloroethane 13.0 1,1,2-Trichloroetname 34 16.6 2 _ _ _ 15.9 Trichloroethylene 1 C Trichlorofluoromethane 2 ND<2 Trichloropropane 2 ND<2

2

ND<2

^{* -} If % Moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Purgeable Aromatics EPA Method 602

Lap Sample Nos. DW1-1-ITC	QC Report No.	602-13	
Duplicates <u>35370-10, 35370-5</u>	Date Analyzed	2-4-86	_
Spike <u>35370-6</u>	Laboratory Supervisor Approval:		
Sample Matrix:			
/X / Water (ug/L)	Dilution Factor _	N/A	
// Soil (ug/Kg)	*Moisture	N/A	<u> </u>
// Other		·	
Spike Source		····	

		Buplicates			Spike	Recove	ery		
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Benzene	ND<1	ND<1	ND<1		10	<1	14	140	
Chlorobenzene	ND<1	ND<1	ND<1		10	<1	11	110	
1,2-Dichlorobenzene	ND<1	ND<1	ND<1		11	<1	11	100	
1,3-Dichloropenzene	ND<1	ND<1	ND<1		13	<1	13	100	
1,4-Dichloropenzene	ND<1	ND<1	ND<1		10	<1	10	100	
Ethyl benzene	ND<1	ND<1	ND<1		11	<1	11	110	
Toluene	ND<1	ND<1	ND<1		10	<1	6.4	64	
Xylenes (Dimethyl benzene)	ND<1	ND<1	ND<1			<1			

^{* -} If % Moisture is reported, results are presented on a dry-weight basis.

ES Jon No. 56394		L	ab Sample	No	35730-10		
Cirent		F	iela Sampi	e No.	Dw1-1-ITC		
Project AF Plant 42		۵	ate Collec	tea	1-30-86		
Client No.		a	ate Receiv	ea	1-31-86		
Laconatory Supervisor Approva	1:	D	ate Analyz	ea	2-3-86		
		Q	C Report N	o	602-13		
Sample Matrix:							
<u>/X</u> / Water (ug,L)		Dilution Factor			N/A		
<u>/</u> / Soi?		×M	*Moisture		N/A		
// Otner							
Spike Source							
	C	Concentrati	on	Retentio	n Time		
Сотроина		Column 1	,			Notes	
Benzene	1	ND<1					

	Concentration			Retentio		
Сотроила	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1	ND<1				
Chloropenzene	1	ND<1				
1,2-Dichlorobenzene	1	ND<1				
1,3-Dichloropenzene	1	ND<1				
1,4-Dichloropenzene	11	ND<1				,
Ethyl penzene	1	ND<1				
Toluene	11	ND<1				
Xylenes (Dimethyl benzene)	1					

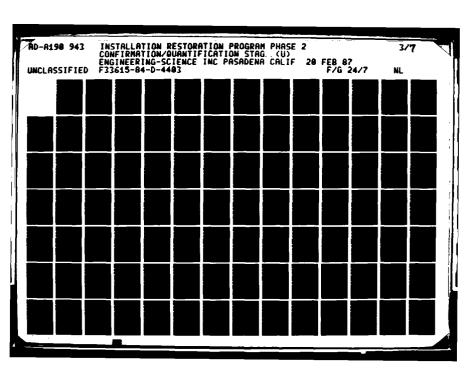
^{* -} If % Moisture is reported, results are presented on a dry-weight basis.

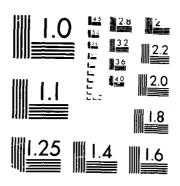
ES Job No56394		Ĺ	ao Sample	No	35730-5	
Client				DW1-1-ITC	DUP.	
Project AF Plant 42				ted		
Cirent No.			ate Receiv	/ea	1-31-86	
Laboratory Supervisor Approval:			ate Analyz	zed	2-4-86	
	_	Ç	C Report N	io	602-13	
Sample Matrix:						
<u>/X</u> / Water (ug,L)		c	ilution Fa	actor	N/A	
<u>/</u> / Soil		**	loisture _		N/A	%
<u>/</u> / Other						
Spike Source						
						-
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes

Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1	ND<1				
Cnlorobenzene	11	ND<1				
1,2-Dichlorobenzene	11	ND<1				
1,3-Dichlorobenzene	1	ND<1				
1,4-Dichlorobenzene	1	ND<1			ļ	
Ethyl benzene	11	ND<1			-	
Toluene	11	ND<1				
Xylenes (Dimethyl benzene)	1					

^{* -} If % Moisture is reported, results are presented on a dr. **

NC - This compound was not detected; the limit of detected than the amount stated in the table above.





MICROCOPY RESOLUTION TEST CF > 1 NATIONAL BURGALL CANDARDS 1968 A

ES Job No56394	Lab Sample No.	_35730-6	
Client	Field Sample No	DW1-1-ITC SPIKE	
Project AF Plant 42	Date Collected	1-30-86	_
Client No.	Date Received	1-31-86	
Laboratory Supervisor Approval:	Date Analyzed	2-4-86	
	QC Report No.	602-13	
Sample Matrix:			
<pre>/X / Water (ug/L)</pre>	Dilution Factor	N/A	_
/ Soil	*Moisture	N/A	_ %
// Other			
Spike Source			

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1	14		2.6		
Chlorobenzene	11	11		8.0		
1,2-Dichiorobenzene	11	11		14.6		
1,3-Dichlorobenzene	11	13		13.0		
1,4-Dichlorobenzene	1	10		12.8		
Ethyl benzene	1	11		7.5		
Toluene	11	6.4		4.9		
Xylenes (Dimethyl benzene)	1			~		

^{* -} If % Moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394	Lab Sample No	35730-11	
Client	Field Sample No	DW3-1-ITC	
Project AF Plant 42	Date Collected	1-30-86	
Client No.	Date Received	1-31-86	
Laboratory Supervisor Approval:	Date Analyzed	2-3-86	
	QC Report No.	602-13	
Sample Matrix:			
/X_/ Water (ug/L)	Dilution Factor	N/A	
/ Soil	*Moisture	N/A	{
/_/ Other			
Spike Source			
· · · · · · · · · · · · · · · · · · ·			

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1	ND<1				
Chlorobenzene	1	ND<1				
1,2-Dichlorobenzene	1	ND<1				. .
1,3-Dichlorobenzene	11	ND<1				
1,4-Dichlorobenzene	1	ND<1				
Ethyl benzene	1	ND<1				
Toluene	1	ND<1				
Xylenes (Dimethyl benzene)	1					

 $[\]star$ - If % Moisture is reported, results are presented on a dry-weight basis.

ES Job No. <u>56394</u>	Lab Sample No.	35730-8	
Client	Field Sample No	DW8-1-ITC	
Project AF Plant 42	Date Collected	1-30-86	
Client No.	Date Received	1-31-86	
Laboratory Supervisor Approval:	Date Analyzed	2-3-86	
	QC Report No.	602-13	
Sample Matrix:			
<pre>/X / Water (ug/L)</pre>	Dilution Factor	N/A	
/ Soil	*Moisture	N/A	¥
/_/ Other			
Spike Source	· · · · · · · · · · · · · · · · · · ·		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1	ND<1				
Chiorobenzene	11	ND<1				
1,2-Dichlorobenzene	11	ND<1				· · · · · · · · · · · · · · · · · · ·
1,3-Dichiorobenzene	11	ND<1				
1,4-Dichloropenzene	1	ND<1				·
Ethyl benzene	11	ND<1				·
Toluene	1	ND<1				
Xylenes (Dimethyl benzene)	1					

^{* -} If % Moisture is reported, results are presented on a dry-weight pasis.



ANALYTICAL **SERVICES**



CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006

October 8, 1986

Attn: Dennis R. Kasper

Page 1 of 10

February 3, 1986

56394

35742/lac

REVISED REPORT

Two (2) water samples:

Sample name	<u>Date</u>	<u>Time</u>
FW2B-ITC	1-31-86	0830
FW1-ITC	1-31-86	0930

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 601.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 602. The results are listed on the following summary sheets.

Willem F. Faron

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director Engineering Science Page 2

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

ES Job No. <u>56394</u>	Lab Sample No. <u>35742-4</u>	
Client	Field Sample No. FW2B-ITC	
Project AF Plant 42 IRP	Date Collected 1-31-86	
Client No.	Date Received 2-3-86	
Laboratory Supervisor Approval:	Date Analyzed <u>2-3-86</u>	
	QC Report No. 601-13	
Sample Matrix:		
/X / Water (ug, L)	Dilution Factor N/A	
<u>/</u> / Soil	*Moisture	9
/_/ Other		
Spike Source		

		Concentration		Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	2	ND<2				···
Bis(2-Chloroethoxy)methane	2	ND<2				
Bis(2-chlordisopropyl)ether	2	ND<2				
Bromobenzene	2	ND<2				
Bromodichloromethane	2	ND<2				
Bromoform	2	ND<2				
Bromomethane	2	ND<2				
Carbon tetrachloride	2	ND<2				
Chloroacetaldehyde	2	ND<2				
Chloral	2	ND<2				
Chlorobenzene	2	ND<2				
Chloroethane	2	ND<2				
Chloroform	2	ND<2				
1-Chlorohexane	2	ND<2				
2-Chloroethyl vinyl ether	2	ND<2				
Chloromethane	2	ND<2				
Chloromethyl methyl ether	2	ND<2				
Chlorotoluene	2	ND<2				
Dibromochloromethane	2	ND<2				

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

FW2B-ITC

!	Co	Concentration			Retention Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	2	ND<2				
Dicnlorodifluorometnane	2	ND<2				ļ
1,1-Dichloroethane	2	ND<2				
1,2-Dichloroethane	2	ND<2				
1,1-Dichloroethylene	2	ND<2				
trans-1,2-dichloroethylene	2	ND<2				
Dichloromethane	2	ND<2		<u> </u>		<u> </u>
1,2-Dichloropropane	2	ND<2				ļ
1,3-Bichioropropylene	2	ND<2				
1,1,2,2-Tetrachloroethane	2	ND<2				
1,1,1,2-Tetrachioroethane	2	ND<2				<u> </u>
Tetrachionosthylene	2	ND<2_				
1,1,1-Trichloroethane	2	ND<2				1
1,1,2-TrichToroethane	2	ND<2				
Trichioroethylene	2	ND<2				
Trichlorofluoromethane	2	ND<2				
Trichlorophopane	2	ND<2				
Vinyî chîoniae	2	ND<2				

Engineering Science Page 4

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

ES Job No56394	Lab Sample No. 35742	:-5
Client	Field Sample No. <u>FW1-</u> 1	TC
Project AF Plant 42 IRP	Date Collected 1-31-	86
Client No.	Date Received 2-3-8	16
Laboratory Supervisor Approval:	Date Analyzed 2-3-8	36
	QC Report No. 601-1	.3
Sample Matrix:		
/X_/ Water (ug/L)	Dilution Factor N/A	
<u>/</u> / Soil	*Moisture	9
/_/ Other		
Spike Source		

		Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzvl chloride	2	ND<2					
Bis(2-Chloroethoxy)methane	2	ND<2					
Bis(2-chloroisopropyl)ether	2	ND<2					
Bromobenzene	2	ND<2					
Bromodichloromethane	2	ND<2					
Bromoform	2	ND<2					
Bromomethane	2	ND<2					
Carbon tetrachloride	2	ND<2					
Chloroacetaldehyde	2	ND<2					
Chloral	2	ND<2					
Chlorobenzene	2	ND<2					
Chloroethane	2	ND<2					
Chloroform	2	ND<2					
1-Chlorohexane	2	ND<2				- <u> </u>	
2-Chloroethyl vinyl ether	2	ND<2					
Chloromethane	2	ND<2					
Chloromethyl methyl ether	2	ND<2					
Chlorotoluene	2	ND<2					
Dibromoch oromethane	2	ND<2					

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

FW1-ITC

	Co	ncentratio	n	Retenti		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	2	ND<2				
Dichlorodifluoromethane	2	ND<2				
1,1-Dichloroethane	2	ND<2				
1,2-Dichloroethane	2	ND<2				
1,1-Dichloroethylene	2	ND<2				
trans-1,2-gichloroethylene	2	ND<2				
Dichloromethane	2	ND<2				
1,2-Dichloropropane	2	ND<2			<u></u>	
1,3-Dichloropropylene	2	ND<2				
1,1,2,2-Tetrachloroethane	2	ND<2				
1,1,1,2-Tetrachloroethane	2	ND<2				
Tetrachloroethylene	2	ND<2				
1,1,1-Trichlorcetname	2	ND<2				
1,1,2-Trichloroethane	2	ND<2				
Trichloroethylene	2	ND<2				
Trichlorofluoromethane	2	ND<2				
Trichloropropane	2	ND<2				
Vinyl chloride	2	ND<2				<u> </u>

 $^{{\}rm ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Toluene

Xylenes (Dimethyl benzene)

QUALITY CONTROL RESULTS SUMMARY Purgeable Aromatics EPA Method 602

Lab Sample N	NOS. FW2B-ITC			Q	C Repor	t No.	602-1	4		
Duplicates	35742-7, 35742-	-3_		D	ate Ana	lyzed	2-4-8	6		
Spike	35742-8	·		L	aborato	ry Sup	erviso	r Appro	oval:	
Sample Matr	x:			_						
<u>/X</u> / Water	(ug/L)			D	ilution	Facto	r	N/A		
/ Soiī	(ug/Kg)			⋆M	oisture					ب
// Other	·									
Spike Source	·									
			Du	plicat	es	S	nike R	ecovery	,	
Con	pound	Blank		C2	RPD	SA	SR	SSR	PR	Notes
Benzene		ND<1	ND<1	ND<1		10	<1	12	120	
Chlorobenze	ene	ND<1	ND<1	ND<1		11	<1	12	109	
1,2-Dichlor	obenzene	ND<1	ND<1	ND<1		12	<1	12	100	
1,3-Dichlor		ND<1		ND<1		12	<1	12	100	
1,4-Dichlor		ND<1	ND<1			11	<1	12	109	
Etnyl benze		ND<1		ND<1		10	<1	12	120	
 	· · · · · · · · · · · · · · · · · · ·	- 	 		 	 	i 	 -	+	

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ND<1 ND<1 ND<1

ND<1

ND<1 ND<1

13

10

<1

<1

130

ES Job No. 56394 Client Project AF Plant 42 Client No. Laporatory Supervisor Approva Sample Matrix: /X / Water (ug/L) / Soil		F D D Q	ab Sample ield Sampl ate Collec ate Receiv ate Analyz C Report N ilution Fa	e No. FW2B ted 1-30 ed 2-3- ed 2-4- o. 602-	-ITC -86 86 86 14	
/_/ Other						
Spike Source						
		ncentratio			on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1	ND<1				1
Chlorobenzene	11	ND<1				
1,2-Dichloropenzene	11	ND<1				
1,3-Dichlorobenzene	1	ND<1				
1,4-Dichloropenzene	1	ND<1				
Ethyl benzene	1	ND<1			 	
Toluene	1	ND<1				
Aylenes (Dimethyl benzene)	11	ND<1				
			<u> </u>			
		<u> </u>		 		 -

ES Job No56394		L	ab Sample	No. <u>3574</u>	2-4	
Client		F	ield Sampi	e No. <u>FW1-</u>	ITC	~
Project AF Plant 42		۵	ate Collec	ted <u>1-30</u>	-86	
Client No.		ū	ate Receiv	ea <u>2-3-</u>	86	
Laboratory Supervisor Approve		D	ate Analyz	ea <u>2-4-</u>	86	
	_	Q	C Report N	o. <u>602-</u>	14	
Sample Matrix:						
<u>/X</u> / water (ug/L)		٥	ilution Fa	ictor	N/A	
// Soil		**	loisture			
/_/ Other						
Spike Source						
	T			<u> </u>		; 1
1			n		on Time	1
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1	ND<1				!
Chloropenzene	11	ND<1	<u> </u>			
1,2-Dichloropenzene	_1_	ND<1				
1,3-Dichloropenzere	1	ND<1				
1,4-Dichloropenzene	1	ND<1				
Ethyl benzene	1	ND<1				
Toluene	1	ND<1				
Xylenes (Dimetnyl penzene)	1	ND<1				
	-					

Li

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. <u>56394</u>		Ĺ	ab Sample	No. <u>3574</u>	<u>2-7</u>	
Client		F	ield Sampi	e No. FW2	B-ITC Dup	
Project AF Plant 42		D	ate Collec	ted <u>1-30</u>	-86	
Client No.		٥	ate Receiv	ed <u>2-3-</u>	86	
Laboratory Supervisor Approve					86	
		Q	C Report N	o. 602-	14	
Sample Matrix:						
<u>/X</u> / Water (ug/L)		D	ilution Fa	ctor	N/A	
/ Soil		*M	loisture			9.
/_/ Other						
Spike Source						
				· · · · · · · · · · · · · · · · · · ·		
1	Co	ncentratio	en.	Retenti	on Time	
Compound	Det Lim				Column 2	Notes
_						
Benzene	1	ND<1				
Cnlorobenzene	i	ND<1				
1,2-Dichlorobenzene	1	ND<1				
 1,3-Dichlorobenzene	1	ND<1				
2,0 5 01101050112010	† · · · • · · · · ·	10011	i			
1,4-Dichloropenzene	1	ND<1				
5	1	NO 41				
Etnyl benzene	11	ND<1				
Toluene	1	ND<1				
Xylenes (Dimethyl benzene)	1	ND<1				
		1				
					`	
1	!	!	}	}	}	

ES Job No. <u>56394</u>	Lab Sample No. <u>35742-8</u>	
Client	Field Sample No. FW2B-ITC SPIKE	
Project AF Plant 42	Date Collected1-30-86	
Client No.	Date Received 2-3-86	
Laboratory Supervisor Approval:	Date Analyzed2-4-86	
	QC Report No. 602-14	
Sample Matrix:		
/X_/ Water (ug/L)	Dilution FactorN/A	
/ Soil	*Moisture	ર
/_/ Other		
Spike Source		

Co	ncentratio	n	Retenti	on Time	1
Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
1	12		2.6		
1	12		8.0		<u> </u>
1	12		14.5		
1	12		12.9		
1	12		12.7		
1	12		7.4		ļ
1 1	12		4.9		
11	12				-
	Det Lim 1 1 1 1 1 1	Det Lim Column 1 1 12 1 12 1 12 1 12 1 1	1 12 1 12 1 12 1 12 1 12 1 12 1 12	Det Lim Column 1 Column 2 Column 1 1 12 2.6 1 12 8.0 1 12 14.5 1 12 12.9 1 12 7.4 1 12 7.4 1 12 4.9	Det Lim Column 1 Column 2 Column 1 Column 2 1 12 2.6 1 12 8.0 1 12 14.5 1 12 12.9 1 12 12.7 1 12 7.4 1 12 4.9



ANALYTICAL **SERVICES**



CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006

October 8, 1986

Attn: Mark A. Guthrie

Page 1 of 26

February 5, 1986

56394

35778/jac

REVISED REPORT

Four (4) soil samples.

Sample Number	<u>Date</u>	Time
16-EVP3-S81-SS2-2.5-ITC	2-3-86	0900
16-EVP3-SB1-SS5-10-ITC	2-3-86	0900
16-EVP3-SB1-SS10-30-ITC	2-3-86	0900
16-EVP3-SB1-SS14-50-ITC	2-3-86	0900

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were extracted according to soluble CAM Title 22 and analyzed by AAS and ICP. The samples were analyzed on a soluble basis, therefore they are reported as Micrograms Per Milliliter(ug/ml). Unable to do spikes on a soluble extract without changing the extraction conditions. The cyanides were distilled and determined by Standard Methods 412B and 412E. The results are listed in the following Metals and Environmental Quality Parameters summary sheets.

William F Farso. William P. Fassinger

Chemist

Richard L. Merrell

Laboratory Director

Engineering-Science

ANALYTICAL RESULTS SUMMARY

Job #35778 Page: 2

Metals

Laboratory Supervisor Approval: QC Report No. __66700-1 Dilution Factor * Moisture Soil (ug/ml) Water (ug/L) Sample Matrix: 0ther Project No. AF Plant 42 IRP II 2-3-86 2-5-86 ES Job No. 56394 Date Collected Date Received Client No. Client

Field Sample No. Lab Sample N	Lab Sample No.	vo. As		Ba Cd	ŗ	ьр	Hg	Se	Ag	Z
16-EVP3-SB1-SS2- 2.5-ITC	35778-1	ND<0.03	4.8	ND<0.03	ND<0.03 ND<0.06 ND<0.2	ND<0.2	0.009	ND< 0.003	ND<0.03	9.4
16-EVP3-SB1-SS5- 10-ITC	35778-2	ND<0.03	3.4	ND<0.03	ND<0.03 ND<0.06 ND<0.2	ND<0.2	0.008	ND< 0.003	0.3	0.2
16-EVP3-SB1-SS10- 30-IIC	35778-3	ND<0.03	7.9	ND<0.03	ND<0.03 ND<0.06 ND<0.2	ND<0.2		ND< 0.003	ND<0.03	0.7
16-EVP3-SB1-SS14- 50-ITC	35778-4	ND<0.03	2.3	ND<0.03	ND<0.03 ND<0.06 ND<0.2	ND<0.2	0.012	ND< 0.003	ND<0.03	0.1
Date Analyzed	W D	2/11	2/11	2/11	2/11	2/11	2/11	2/11	2/11	2/11
Analytical Method	**	9	۵	ď	d	Ь	ú	9	۵	٥

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

G = Graphit Furnace AAS C = Cold Vapor AAS F = Flame AAS C = Co F = Hydride Vapor AAS

Engineering-Science

-OUALITY CONTROL RESULTS SUMMARY Metals

TOTAL MACAGESCA. GEOGRAPH - SOCIOLOS DE POLICIONAL ROPORTAGE. GEOGRAPHI ISSUES SE MACAGAGA.

ÇÇÇ. ∰ Page: 3 Joh #35778

%

Sample Matrix:

Water (ug/L) Soil (ud/mi) /X.

Other

/ / Other Spike Source(s)

Dilution Factor *Moisture_

QC Report No. 66709-1 Laboratory Supervisor Approval:

	æ			1	!	1 -		1		1	1		
covery	SSR			1 1	1				!	-			
Spiked Recovery	SR			1 1	1	:	:	!	!		į		
S	SA) 	1	-				!	t 		
Se	PPD			С			1	40		!	0		
Duplicates	C2	ND<	co.o.	2.3	ND<	ND< 0.06	ND<0.2 ND<0.2	0.008	ND< 0.003	ND< 0.03	0.1		
٥	c1 c2	ND <	50.0	2.3	ND<	ND< 0.06	ND<0.2	0.012	ND< 0.003	ND< 0.03	0.1		
	Blank	<u> </u>	<u> </u>	۷	NA	NA	۸۸	AN	AN	ΑN	۸A		
** Anal.	Method	c	0	പ	Q.	Q.	d.	C	ິນ	ď	d		
	Date Anal.		11.7	2-11	2-11	2-11	2-11	2-11	2-11	2-11	2-11		
Sample Nos.	Spike	*		NA	ν	NA	A	NA	NA	A	۷.		
Laboratory 5	Duplicates Spike	0344-07636	22110-4440	35778-4A&B	35778-4A&B	35778-4A&B	35778-4A&B	35778-4A&B	35778-4A&B	35778-4A&B	35778-4A&B		
Analyte	1		,	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel		

^{* -} If % moisture is reported, results ** are presented on a dry-weight basis.

Engineering-Science

ANALYTICAL RESULTS SUMMARY Environmental Quality Parameters

Page: 4 Job #35778

S Job No. 56394 Slient Project No. AF Plant 42 IRP II	194 Int 42 IRP II	Samp	Sample Matrix:		QC Report N Laboratory	QC Report No. 412E-1 Laboratory Supervisor Approval:	Approval:
Client No. Jate Collected 2-3-86 Jate Received 2-5-86	-86 -86	/x/	Water (ug/L) Soil (ug/g) Other	}	Dilution Factor * Moisture	ıctor	
Field Sample No.	Lab Sample No.	CJ		 1		4	
16-EVP3-SB1-SS2- 2 5-ITC							н :
16-EV93-SB1-SS5- 10-17C	35778-2	ND<0.5					
16-EVP3-SB1-SS10- 30-ITC		ND<0.5					
16-EVP3-SB1-SS14- 50-TTC		ND<0.5					
Date Analyzed	Ω	5/6					
Analytical Method	* .	412E					

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

QUALITY CONTROL RESULTS SUMMARY Environmental Quality Parameters

CECCL TEACHER. CECCCCC - ESSESSE . CECCCCCC TOURSHIP) SSSSSSS BOURSHIP ESSESSE TEACHER TOURSE TOURSE

Page: 5 Job #35788

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7

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Water (ug/L) Soil (ug/g)

Sample Matrix:

// Water (ug/L /X/ Soil (ug/g) // Other Spike Source(s)_____

Dilution Factor *Moisture_

Laboratory Supervisor Approval: QC Report No.

	1	 i	 ī	 	 	T	T	·	 	<u> </u>	Τ	IT C	PRPORATION
	PR	7.4											
Recovery	SSR	5.93											
Spiked R	SR	0.65											
67	SA	7.96											
es	RPD	ω											
Ouplicates	C2	6.17											as is.
	C1	5.69											eight b
	Blank	NA											a dry-w
** Anal.	Method	412-E											are presented on a dry-weight basis.
	Date Anal.	2.6											s ** are pre
sample Nos.	Spike	35778-4C											ted, results
Laboratory Sample Nos.	Duplicates	35778-48											If % moisture is reported, results **
Analyte	Metal	Cyanide											* - If & moist

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 16-EVP3-SB1-SS2-2.5-ITC	QC Report No	8010-14	
Duplicates <u>35778-9, 35778-1</u> 0	Date Analyzed	2-10-86	
Spike <u>35778-12</u>	Laboratory Superv	isor Approval:	
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor _	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		
/_/ Other			
Spike Source			

		Duplicates			Spike (Recover	·V		
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Benzyl chloride	₩ ^D б10	8º.610	₩ ⁰ .δ10			<0.010	++-		
Bis(2-Chloroethoxy)methane	0.610	θ ⁰ .δ10	ND δ10			<0.010			
Bis(2-chloroisopropyl)ether	0.610	ND 0.δ10	ND ó10			<0.010			
Bromobenzene	θ. δ10	θ.δ ₁₀	ND δ10			<0.010			
Bromodichloromethane	θ ⁰ .δ10	ND 0.610	ND δ10		0.05	<0.010	0.057	114	
Bromoform	θ ^D δ10	ND 610	ND δ10		0.05	<0.010	0.083	166	
Bromomethane	θ ^D δ10	ND δ10	θ ^D δ10			<0.010			
Carbon tetrachloride	ND δ10	θ ^D . δ10	ND δ10		0.05	<0.010	0.048	96	
Chloroacetaldenyde	ND δ10	Nº δ10	ND δ10			<0.010			
Chlorel	80.610	^{NO} δ10	ND 610			<0.010			1
Chlorobenzene	80.610	80.610	ND δ10		0.05	<0.010	0.046	92	
Chloroethane	80. δ10	₩ ⁰ 610	80. δ10			<0.010			
Chloroform	8º. 610	NO 610	θ ⁰ δ10		0.05	<0.010	0.049	98	
1-Chlorohexane	80.610	₩0.610	ND δ10			<0.010			
2-Chloroethyl vinyl ether	8º. 610_	ND 610	^θ .δ10			<0.010			
Chloromethane	8º. 610	₩ ⁰ . 610				<0.010			
Chloromethyl methyl ether	θ ⁰ .δ10	ND δ10	8 ^D δ10			<0.010			
Chlorotoluene	90. δ10	₩º. 610				<0.010			
Dibromochloromethane	NO 610	θ ⁰ .δ10	80.610		0.18	<0.010	0.20	111	

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-S6.-SS2-2.5-ITC

	**************************************	=====	THE PERSON		1=	A 1			**
!	!	Du	plicate	es :	! !	Spike	Recover	У	1
Compound	Blank	C1_	C2	RPD	SA	SR	SSR	PR	Notes
\$ 1	ND<	ND<	ND<				j		:
Dionomomethane	0.010		0.010			<0.010			
Bichlorodifluoromethane	Ν <u>Ρ</u> δ10	80.610	ND δ10			<0.010			<u> </u>
1,1-Dichioroethane	80 <u>610</u>	<u> გე</u> გე	θ ^D δ10		0.050	<0.010	0.048	96	<u>i</u>
1,2-Dichloroethane	8º610	ზ ^ი აა10	θ ⁰ δ10		0.050	<0.010	0.051	102	<u> </u>
1,1-Dichicroethylene	1 80010	θ ^D δ10	8º.810		0.050	<0.010	0.035	70	<u> </u>
trans-1,2-dichloroethylene	8º. 610	θ. δ ₁₀	₩ ^D б10		0.050	<0.010	0.045	90	<u> </u>
Dichloromethane	0.610	₩ ^D ð10	80810		0.050	<0.010	0.059	118	
1,2-Dichloropropane	8º. 610	80610	ND δ10		0.070	<0.010	0.072	103	
1,3-Dichloropropylene	θ ⁰ .δ10	θ [.] δ1c	θ.δ10		0.175	<0.010	0.199	114	
1,1,2,2-Tetrachionoethane	მ ^ე გე	ზ ^ი გე გე გ	₩ ^D δ10		0.100	<0.010	0.092	92	
1,1,1,2-Tetrachloroethane	θ ^D δ10	ND δ10	θ ^D δ10			<0.010			ĺ
Tetrachloroethylene	θ ⁰ δ10	შ ^ე გე	θ ^D δ10		0.100	<0.010	0.092	92	
1,1,1-Trichloroethane	ND 610	θ ^D δ10	θ ^D δ10		0.050	<0.010	0.049	98	
1,1,2-Trichionoethane	8º.810	θ.δ10	θ.δ ₁₀		0.175	<0.010	0.199	114	
Trichloroethylene	₩ ^D . б10	θ.δ10	θ [.] δ10		0.050	<0.010	0.046	92	
Trichlorofluoromethane	85 ₀ 10	₩ ⁹ б10	8 ⁰ .610			<0.010		-	
Trichloropropane	შ ^ი გენე ი	გე _{გე}	ცი _{გე} ი			<0.010			
Vinyi chioride	80.610	80.61c	8 ⁰ . 610			<0.010			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35778-9
Client	Field Sample No. 1	6-EVP3-SB1-SS2-2.5-ITC
Project AF Plant 42	Date Collected	2-3-86
Client No.	Date Received	2-5-86
Laboratory Supervisor Approval:	Date Analyzed	2-10-86
	QC Report No.	8010-14
Sample Matrix:		
∠/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
// Other		
Spike Source		

_		oncentrati		Retenti		
Compound	Det Lim	Column I	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.310				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldenyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB1-SS2-2.5-ITC

	Co	ncentratio	n	Retenti	on Time	Γ
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichlordethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichiproethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichioropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-TrichToroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vanyi chlorade	10.010	ND<0.010				

N2 - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35778-10	DUP.
Client	Field Sample No.	16-EVP3-SB1-SS2-2	.5-ITC
Project AF Plant 42	Date Collected	2-3-86	
Client No.	Date Received	2-5-86	
Laboratory Supervisor Approval:	Date Analyzed	2-10-86	
	QC Report No.	8010-14	
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		95
/_/ Other			
Spike Source			

	С	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroiscpropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB1-SS2-2.5-ITC DUP.

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichioroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-TetrachToroethane	0.010	ND<0.010				<u> </u>
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichionoethane	0.010	ND<0.010				
1,1,2-Trichlorcethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichiorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35778-12	SPIKE
Client		16-EVP3-SB1-SS2-2.	
Project AF Plant 42	Date Collected _	2-3-86	
Client No.	Date Received _	2-5-86	
Laboratory Supervisor Approval:	Date Analyzed _	2-10-86	
	QC Report No	8010-14	
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor	N/A	
<pre>/X_/ Soil (ug/g)</pre>	*Moisture		%
// Other			
Spike Source			

Compound		Concentration Det Lim! Column Column		Retenti Column II	on Time	Notes
Benzyl chloride	0.010	ND<0.010	COTUMIT 2	CO (dill); 1	COTUMIT 2	Rotes
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	0.057		13.9		·
Bromoform	0.010	0.057		19.3		
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	0.048		13.5		
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	0.046		24.0		
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	0.049		11.1		
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chioromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
Dibromochloromethane	0.010	0.199		16.7		

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB1-SS2-2.5-ITC SPIKE

1	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				İ
Dichiorodiflucromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	0.048		9.9		
1,2-Dichloroethane	0.010	0.051		11.8		
1,1-Dichlorcethylene	0.010	0.035		8.7		
trans-1,2-dichloroethylene	0.010	0.045		10.6		
Dichloromethane	0.010	0.059		6.1		
I,2-Dichloropropane	0.010	0.072		15.2		<u> </u>
:,3-Dichloropropylene	0.010	0.199		16.7		
1,1,2,2-Tetrachioroethane	0.010	0.092		21.5		
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachionoethylene	0.010	0.092		21.5		
1,1.1-Trichloroethane	0.010	0.049		13.1		
1,1,2-Trichlorcethane	0.010	0.199		16.7		1
Trichloroethylene	0.010	0.046		16.0		
TrichTorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35778-2B
Client		16-EVP3-SB1-SS5-10-ITC
Project AF Plant 42	Date Collected	2-3-86
Client No.	Date Received	2-5-86
Laboratory Supervisor Approval:	Date Analyzed	2-7-86
	QC Report No.	8010-14
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor _	N/A
/X / Soil (ug/g)	*Moisture	%
<u>/</u> / Other		
Spike Source		

Compound	C Det Lim	oncentrati Column I		Retenti	on Time Column 2	Notes
Benzyl chloride	0.010	ND<0.010				Notes
Bis(2-Chloroethoxy)methane	0.010	ND<0.010	***	~		
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-S81-SS5-10-ITC

	Co	ncentratio	n	Retenti	<u> </u>	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Bichloroethane	0.010	ND<0.010				
1,2-Dicnioroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dicnioropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachlorcethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35778-11
Client	Field Sample No.	16-EVP3-SB1-SS10-30-ITC
Project AF Plant 42	Date Collected	2-3-86
Client No.	Date Received	2-5-86
Laboratory Supervisor Approval:	Date Analyzed	2-10-86
	QC Report No.	8010-14
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor _	N/A
/X / Soil (ug/g)	*Moisture	
<u>/</u> / Other		
Spike Source		

Compound	Concentration Det Lim Column 1 Column 2		Retenti Column 1	on Time	Notes	
Benzyl chloride	0.010	ND<0.010	CO (dilit) 2	COTUMN 1		Notes
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010		-		
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB1-SS10-30-ITC

	Co	ncentratio	n	Retenti		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichioroethane	0.010	ND<0.010				<u> </u>
1,2-Dichloroetnane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				<u> </u>
Dichloromethane	0.010	ND<0.010				i
1,2-Dichloropropane	0.010	ND<0.010				<u> </u>
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				1
1,1,1,2-Tetrachicroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				<u> </u>
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Intenioroethylene	0.010	ND<0.010				
Inteniorofluorometrane	0.010	ND<0.010				1
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35778-4
Client		16-EVP3-SB1-SS14-50-ITC
Project AF Plant 42	Date Collected	2-3-86
Client No.	Date Received	2-5-86
Laboratory Supervisor Approval:	Date Analyzed	2-7-86
	QC Report No.	8010-14
Sample Matrix:		
/ Water (ug/L)	Dilution Factor	N/A
/X / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

Compound	C	Concentration Det Lim Column 1 Column 2			on Time	Nata
Benzyl chloride	0.010	ND<0.010	COTUMIT 2	Column 1	Column 2	Notes
Bis(2-Chloroethoxy)methane	0.010					
		ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB1-SS14-50-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichloroalfluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichioroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dicnloropropane	0.010	ND<0.010				
:,3-Dichipropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachlonoethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichlorgethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichioropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

 $^{{\}sf ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Anomatic Volatile Organics SW Method 8020

Lap Sample Nos. 16-EVP3-SB1-SS14-50-ITC				C Repor	t No.	8020-15			
Duplicates <u>35778-6, 3577</u>	<u>8-</u> 5		D	ate Ana	lyzed		2-10-8	6	
Spike35778-6	_		L	Laboratory Supervisor Approval:					
Sample Matrix:			_						
∠/ Water (ug/L)			D	ilution	Facto	r	N/A		
<u>/X</u> / Soil (ug/g)				oisture					
/_/ Otner									
Spike Source									
Spirite source									
	i		plicat				ecovery		-
Compound	Blank			RPD	SA	SR	SSR	PR	Notes
	>GM	1	ND<						
Benzene		+			0.052	0.005	0.068	130	
Chinabanana	ND<	ND<	ND<		0 056	0 005	0.073	120	
Chlorobenzene	0.005 ND<	0.005 ND<	ND<		0.056	0.005	0.072	129	
1,2-Dichloropenzene	0.005	1			0.053	0 005	0.067	126	
1,2 51611101 0501120110	ND<	ND<	ND<		0.330	0.000	0.001	120	
1,3-Dichlorobenzene	0.005	1			0.064	0.005	0.080	124	
	ND<	+	ND<	1					
1,4-Dichioropenzene	0.005	0.005	0.005		0.052	0.005	0.067	129	
	ND<	ND<	ND<						
Ethyl benzene	0.005	0.005	0.005		0.052	0.005	0.065	125	
İ	ND<	ND<	ND<		!				
Toluene		0.005			0.050	0.005	0.0105	210	 -
	ND<	ND<			j .				
Xylenes (Dimetryl benzene)	0.005	0.005	0.005			0.005			
	+	[-							
					•		!		
1	 								

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESulTS SUMMARY Aromatic Volatile Organics Sw Method 8020

ES Job No. 56394		Lab Sample No. 35778-4					
Cirent		F	ield Sampl	e No. <u>16-E</u>	VP3-SB1-SS	2-2.5	
Froject AF Plant 42		D	ate Collec	tea	2-3-86		
Cinert No.		a	ate Receiv	ea	2-5-86		
Laboratory Subervisor Approve		D	Date Analyzed		2-7-86		
				o			
Sample Matrix:							
/ water (ug L)		D	ilution Fa	ctor	N/A		
<u>x</u> Soti (ug/g)		*M	oisture				
/ Otner							
Spike Sounce							
	Co	Concentration		Retenti	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
Cnloropenzens	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichloropenzene	0.005	ND<0.005				ļ 	
1,4-Dichloropenzene	0.005	ND<0.005					
Etnyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimetnyl benzene)	0.005	ND<0.005					
						1	

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics Sw Method 8020

ES Job No. <u>56394</u>		L	ab Samole	No	35778-5	
Cirent		F	iela Sampi	e No. <u>16-E</u>	VP3-SB1-SS	5-10-17C
Project <u>AF Plant 42</u>		Ũ	ate Collec	tea	2-3-86	
Client No.		٥	ate Receiv	ed	2-5-86	
Laboratory Supervisor Approve			ate Analyz			
		Q	C Report N	o	8020-15	
Sample Mathix: water (ug/L)		ס	ilution Fa	ctor	N, A	
/X / Soil (ug/g)		×M	oisture			
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compound			Column 2			Notes
Benzene	0.005	ND<0.005				
Chionopen ze ne	0.005	ND<0.005				1
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlonopenzene	0.005	ND<0.005				
1,4-Dichiphopenzene	0.005	ND<0.005				
Ethy) penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				!
1	-	1	1			
	i	}	1	Ì		1 1

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Anomatic Volatile Organics Sw Method 8020

ES Job No. <u>56394</u>		L	ac Sample	No	35778-7	
Cirent			ield Samol			10-30-1
Project AF Plant 42			ate Collec			
Client No.			ate Receiv			
Laponatory Supervisor Approv	āī:		ate Analyz		_	
		Q	C Report N	0	8020-15	
Sample Matrix:						
water (ug:L)		۵	nlution Fa	ctor	N/A	
<u> </u>		**	loisture _			
/ Other				-		
Spike Sounce						
	Co	pncentratio	on .	Retenti	on Time	
Compound			Column 2			Notes
Benzene	0.005	ND<0.005				<u> </u>
Cnlorcpenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Etny? penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics Sw Method 8020

ES Job No. <u>56394</u>		L	ab Sample	No	35778-6	
Client		F	ield Sampl	e No. <u>16-E</u>	VP3-SB1-SS	14-50-I
Project <u>AF Plant 42</u>		٥	ate Collec	tea	2-3-86	
Cirent No.		ס	ate Receiv	ea	2-5-86	
Laboratory Supervisor Approva		D	ate Analyz	ed	2-7-86	
	_	Q	C Report N	o	8020-15	
Sample Mathix: / Water (ug/L)		D	ilution Fa	ctor	N/A	
/X / Soni (ug/g)						
// Other						
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compound		Column 1			,	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Etnyl benzane	0.005	ND<0.005				
†oluene	0.005	ND<0.005				
Xylenes (Dimetnyl penzene)	0.005	ND<0.005				
						
	 		 			

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		L	ab Sample	No	35778-5	D⊍=.
Client		F	ield Sampl	e No. <u>16-E</u>	VP3-SB1-S3	14-50-110
	_ - _	Ē	ate Collec	tea	2-3-86	
Client No.			ate Receiv			
Laboratory Supervisor Approva		Đ	ate Analyz	:ea	2-10-86	
		Q	C Report N	io	8020-15	
Sample Matrix: water (ug/L)		Ω	dilution Fa	ictor	N/A	
<u>/X / Soil (ug g)</u>		**	loisture			9
/ Other						
Spike Source						
	· · · · · · · · · · · · · · · · · · ·			<u> </u>		Ţ
; }	Co	ncentratio	n	Retenti	or Time	1
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				<u> </u>
1,4-Dichloropenzene	0.005	ND<0.005				
Etny benzene	0.005	ND<0.005				
Toiuene	0.005	ND<0.005				
; Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		L	ab Sample	No	35778-6	S=:
Client		F	ield Sampl	e No. <u>16-ē</u>	VP3-SB1-SS	<u>14-50-</u> I
Project AF Plant 42		D	ate Collec	tea	2-3-86	
Cirent No.		D	ate Receiv	ea	2-5-86	
Laboratory Supervisor Approva		D	ate Anaiyz	ea	2-10-86	
		Q	C Report N	o	8020-15	
Samole Mathix:/ Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)						
/_/ Otner						
Spike Source					·	
	Co	ncentratio	n	Retenti	on Time	
Compound		Column 1				Notes
Benzene	0.005	0.068		2.6		
Chiorobenzene	0.005	0.072		8.0		
1,2-Dichloropenzene	0.005	0.067		14.6		
1,3-Dichlorobenzene	0.005	0.080		13.0		
1,4-Dichloropenzene	0.005	0.068		12.8		! !
Etnyi penzene	0.005	0.065		7.4		!
Toluene	0.005	0.105		4.9		!
Xylenes (Dimetnyl benzene)	0.005	ND<0.005				
	1				1	!

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.



ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. Arcadia, CA 91006 October 8, 1986

Attn: Dennis R. Kasper

Page 1 of 17

February 6, 1986

56394

35790/njc

REVISED REPORT

Four (4) soil samples.

Sample Name	Date	Time
15-EVP3-SB2-SS3-5-ITC	2-3-86	1500
16-EVP3-SB2-SS8-20-ITC	2-3-86	1500
16-EVP3-SB2-SS14-50-ITC	2-5-86	0900
16-EVP3-SB3-SS2-2.5-ITC	2-5-86	1130

The samples were analyzed for purgeable halocarbons using a Tekman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Anomatic volatile organic compounds using a Texman liquid sample concentrator and a Varian 6000 gas enromatograph equipped with a photonomization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were extracted according to soluble CAM Title 22 and analyzed by AA and ICP. The samples were analyzed on a soluble basis, therefore they were reported as Microgram Per Milliliter (ug/ml). Unable to do spikes on a soluble extract without changing the extraction conditions. The cyanides were distilled and determined by Standard Methods 412B and 412E. The results are listed in the Metals summary sheets.

William & Farmer

William P. Fassinge⊬

Chemist

Richard L. Merrell Laboratory Director

ANALYFICAL RESULTS SUMMARY Metals

ES Job No. 56394
Client
Project No. AF Plant 42-IRP-II
Client No.
Date Collected 2-5-86
Date Received 2-6-86

Sample Matrix: // Water (ug/L) /X/ Soil (ug/ml) // Other

QC Report No. 66700-2 Laboratory Supervisor Approval:

Dilution Factor * Moisture

Field Sample No.	Lab Sample No	No As	Ва	ρϽ	ن	Pb	Hg	Se	Ag	
16-EVP3-SB3-SS2- 2.5-ITC	35790-1	·	3,5	ND<0.03	ND<0.	ND<0.2	ND<0.001	ND<0.003	ND<0.003 ND<0.03	0.5
16-EVP3-SB2-SS3- 5-ITC	35790-2	ND<0.03	3.6	ND<0.03	ND<0.03 ND<0.06 ND<0.2	ND<0.2	ND<0.001	ND<0.003	9.0	3.3
16-EVP3-5B2-5S8- 20-ITC	35790-3	ND<0.03	6.1	ND<0.03	ND<0.06 ND<0.2	ND<0.2	ND<0.001 ND<0.003 ND<0.03	ND<0.003	ND<0.03	0.2
16-EVP3-SB2-SS14- 50-ITC	35790-4a	ND<0.03	2.3			ND<0.2	ND<0.001	ND<0.003	0.03	0.1
		,								
Date Analyzed	£ Ω	2 10	2 14	2 14	2 14	2 14	2 14	2 14	2 14	2 14
Aralytical Method	*	ຍ	٩	۵	٥	٩	ပ	9	۵	c.

If % moisture is reported, results ** are presented on a dry-weight basis.

F = F lame AAS C = Cold Vapor AAS G = G caphit Furnace AAS H = Hydride Vapor AAS P = Inductively Coupled Plasma

QUALITY CONTROL RESULTS SUMMARY Merals

Job #35790 Page: 3

j

Laboratory Supervisor Approvat

66700-2

OC Report No.

Sample Matrix:

Water (ug/L)

Dilution Factor

*Moisture

/X/

/_ Other Spike Source(s)_

Soil (ug/ml)

<u> </u>	<u> </u>			i i i	1	i ((1 1						
SSR 1					i i		!						+
piked Recovery SR SSR													
- V S				:		i i	•		1]
es RFD	:	1	19			.			1	;			-
Deplicates [C2		0.03	6-1	ND< 0.03	NO. 0.06	ND<	ND 000	ND< 0.003	NO< 0.03	ND<			
a : ::3		0.03	2.3	ND< 0.03	ND< 0.06	ND<	آه ا	ND<	0.03	0.1			
B lank		N/A	N/A	N/A	N/A	N/A	A/N	N/A	i .				
Ak Anal. Method	-	9	d .	a .	d	ď	၁	ບ	ط	d			
Date Anal.		2/10	2/14	2/14	2/14	2/14	2/14	2/11	2/14	2/14			
Spike		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/A			
Laboratory Sample Nos. Duplicates Spike		35790-4a&b	35790-4a&b	35790-4a&b	35790-4a&b	35790-4a&h	3£790-4a&b	35790-4a&b	35790-4a&b	35790-4a&b			
Analyte Metal	1 Mr 25 Mr 27 Mr 2	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel			

 $[\]star$ - If \$ moisture is reported, results ** are presented on a dry-weight basis.

ANALYTICAL RESULTS SUMMARY Fnvironmental Quality Parameters

Page: 4 Job #35790

ES Job No. 56394 Client Project No AF Plant 42 (RP-11	42 IRP-11		Sample Matrix.	QC Report No. 412E-2 Laboratory Supervisor Approval:
Client No. Date Collected 2-3, 5-86 Date Received 2-6-86	5-86		Z_/ Water (ug/L) ZX/ Soil (ug/g) Z/ Other	Dilution Factor * Moisture
Field Sample No.	Lab Sample No.	CN		2
	35790-4A		10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	
16-EVP3-S82-SS8- 20'-ITC	35790-3	ND<0.4		
16-EVP3-SB2-SS3- 5-IIC	35790-2	ND<0.4		
16-EVP3-SB3-SS2- 2.5'-ITC	35790-1	ND<0.4		
Date Analyzed	M	2/7		
Analytical Method	*	412E		

⁻ If % moisture is reported, results are presented on a Dry-weight basis.

QUALITY CONFROL RESULTS SUMMARY Environmental Quality Parameters

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Page: 5 Job #35790

Water (ug/L) Soil (ug/g) Other Sample Matrix:

*Moisture

Dilution Factor

Laboratory Supervisor Approval: 412F-2 QC Report No.

						 		 		,	_IT_	CORPORATIO
. :	PR	7.4	: :		1	<u>!</u> !	 			; ; ; ; ;		
ecovery.	SSR	14.9	:		! !							
iked R	SR	TR<0.4 14.9	!									
ලි	C1 C2 RPO SA SR SSR	19.99	;		1							
65	RPD -	0.7										
uplicat	C2	14.9 14.8	!	; ;	 							asis.
1 .		14.9					1		 			eight b
! :	Blank	NA										a dry-w
Analy.	Method	412E			·							are presented on a dry-weight basis.
	Date Anal.	2/7										*
sample Nos.	Spike	35790-C										ted, result
Laboratory S	Duplicates Spike	35790 a & b										ure is repor
[Analytical		Cyanide	:									* - If % moisture is reported, results

* - If % moisture is reported, results ** are presented on a dry-weight basis.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No3	5790-7
Client	Field Sample No. <u>1</u>	6-EVP3-SB2-SS3-5-ITC
Project AF Plant 42-IRP-II	Date Collected	2-3-86
Client No.	Date Received	2-6-86
Laboratory Supervisor Approval:	Date Analyzed	2-11-86
	QC Report No.	8010-14
Sample Matrix:		
// Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	%
/ Other		
Spike Source		

Compound	Det Lim	oncentrati Column 1	on Column 2	Retenti Column I	on Time	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010	~			
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3~SB2-SS3-5-170

	Co	ncentratio	n	Retenti	<u> </u>	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichlorcetnylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				İ
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				l
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachieroethylene	0.010	ND<0.010	-			
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichioroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Inichlorofluoromethane	0.010	ND<0.010				<u> </u>
Trichloropropere	C.010	ND<0.010				
Viny: crionide	0.010	ND<0.010	<u></u>			

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35790-8			
Client	Field Sample No.	16-EVP3-SB2-SS14-50-ITC			
Project AF Plant 42-IRP-II	Date Collected _	2-5-86			
Client No.	Date Received _	2-6-86			
Laboratory Supervisor Approval:	Date Analyzed _	2-11-86			
	QC Report No.	8010-14			
Sample Matrix:	_				
// Water (ug/L)	Dilution Factor	N/A			
<pre>/X / Soil (ug/g)</pre>	*Moisture	9			
/_/ Other					
Spike Source					

Compound	Concentration Det Lim Column 1 Column 2		Retention Time		Notes	
Benzyl chloride	0.010	ND<0.010				110 (63
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB2-SS14-50-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichiorogifiuoromethare	0.010	ND<0.010				<u> </u>
1,1-Dichloroethane	0.010	ND<0.010				<u> </u>
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				<u>i</u>
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dionicromethane	C.010	ND<0.010				<u> </u>
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010_	ND<0.010				
1,1,1,2-TetracrIoroethare	0.010	ND<0.010		<u> </u>		
Tetrachioroethylene	0.010	ND<0.010				<u> </u>
1,1,1-Trichlorgethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35790-9		
Client	Field Sample No.	16-EVP3-SB3-SS2-2.5-ITC		
Project AF Plant 42-IRP-II	Date Collected _	2-5-86		
Client No.	Date Received _	2-6-86		
Laboratory Supervisor Approval:	Date Analyzed _	2-11-86		
	QC Report No	8010-14		
Sample Matrix:				
<u>/</u> / Water (ug/L)	Dilution Factor	N/A		
<u>/X</u> / Soil (ug/g)	*Moisture			
/_/ Other				
Spike Source				

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2		Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND <u.010< td=""><td></td><td></td><td></td><td></td></u.010<>				
Chlorotoluene	0.010	ND<0.010				<u></u>
Dibromochloromethane	0.010	ND<0.010				<u> </u>

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB3-SS2-2.5-ITC

	Concentration			Retent	<u> </u>	
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				<u> </u>
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichionoethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				<u> </u>
Dichloromethane	0.010	ND<0.010			<u> </u>	
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichicropropylene	0.010	ND<0.010				<u> </u>
1,1,2,2-Tetrachloroetnane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				<u> </u>
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichlordethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichloroflupromethane	0.010	ND<0.010				
Trichlonophopane	0.010	ND<0.010				
Viny) chloride	0.010	ND<0.010				

ND - Inis compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35790-10
Client	Field Sample No.	16-EVP3-SB2-SS8-20-ITC
Project AF Plant 42-IRP-II	Date Collected _	2-3-86
Client No.	Date Received _	2-6-86
Laboratory Supervisor Approval:	Date Analyzed	2-11-86
	QC Report No	8010-14
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	9
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column I	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

16-EVP3-SB2-SS8-20-170

!	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010				ļ	
Dichlorodifluonomethane	0.010	ND<0.010		<u> </u>			
1,1-Dichloroethane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010				<u>i</u>	
trans-1,2-dicrloroethylene	0.010	ND<0.010				<u> </u>	
Dichloromethane	0.010	ND<0.010				İ	
1,2-Bichloropropane	0.010	ND<0.010				İ	
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachiorcethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachioncethylene	0.010	ND<0.010					
1,1.1-Trichloroethane	0.010	ND<0.010					
1,1.2-Triciloroetrane	0.010	ND<0.010					
Trichioroethylene	0.010	ND<0.010					
Inschionofiuoromethane	0.010	ND<0.010					
Intonioropropane	0.010	ND<0.010				<u> </u>	
vinyl chloride	0.010	ND<0.010					

NI - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Toluere

Xylenes (Dimethyl benzene) | 0.005

ANALYTICAL RESULTS SUMMARY Anomatic Volatile Organics SW Method 8020

ES Job No. 56394		Ł	ab Sample	No	35790-4		
Client		F	ield Sampl	e No. <u>16-E</u>	16-EVP3-SB2-SS3-5-ITC		
Project <u>AF Plant 42-IRP-II</u>		ם	ate Collec	2-3-86			
Client No.		D	ate Receiv	ea	2-6-86		
Laporatory Supervisor Appr	oval:	ם	ate Analyz	ea	2-12-8€		
		Q	C Report N	o	8020-15		
Sample Matrix:							
\angle _/ Water (ug/L)		D	ilution Fa	ctor			
<u>/X</u> / Soil (ug/g)			oisture _				
/ Other							
Spike Source				~~~			
				<u> </u>		!	
	Co	ncentratio	n	Retenti	etention Time		
Compound			Column 2			Notes	
Benzene	0.005	ND<0.005				:	
Chlorobenzene	0.005	ND<0.005					
1,2-Diorloropenzere	0.005	ND<0.005					
1,3-Dichloropenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Etnyl benzene		ND<0.005					
			 	 	1	 	

ND<0.005

ND<0.005

0.005

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ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

Es 0,0 No 56394		L	ab Sample	No	35790-5	
uinent		F	ield Sampl	e No. <u>16-E</u>	VP3-SB2-SS	8-20-IT
en peut AF Plant 42-IRP	-11	۵	ate Collec	tea	2-3-86	
grande N.C.		D	ate Receiv	ed	2-6-86	
Law Match. Surenvisch Apphov		D	ate Analyz	ed	2-11-86	
		Q	C Report N	·	8020-15	
Sami e Mathiw:						
waten lug ul		D	ilution Fa	ctor		
ig Skin Ug g) Timen		**	loisture		· · · · · · · · · · · · · · · · · · ·	
spreducte						
				1		· · · · · · · · · · · · · · · · · · ·
	Co	ncentratio	n	Retenti	on Time	1 1
		Column 1				Notes
_Bergene	0.005	ND<0.005				
Inlanterae e.	0.005	ND<0.005				
	0.005	ND<0.005				ļ
	0.005	ND<0.005				
, . 140 ogn pro <u>perzene</u>	0.005	ND<0.005				ļ
jigr, perzer	0.005	ND<0.005				<u> </u>
. The same	0.005	NO<0.005				
. enex foreery cenzere;	0.005	ND<0.005				
	1		<u> </u>			
	 	•				

 W^{\prime} is the remaining was not detected; the limit of detection for this analysis is then the about stated in the table above.

ANALYTICAL RESULTS SUMMARY Anomatic Volatile Organics SW Method 8020

ES Job No. 56394		Ĺ	ap Sample	No	35790-6	
Client		F	ield Sampl	e No. <u>16-E</u>	VP3-SB2-SS	14-51-1
Project <u>AF Plant 42-IRP</u> -	-II	D	ate Collec	ted	2-5-86	
Client No.	<u> </u>	٥	ate Receiv	ea	2-6-86	
Lappratory Supervisor Approva	aì:	D	ate Analyz	ed	2-12-86	
		Q	C Report N	o	8020-15	
Sample Matrix:						
/_/ water (ug/L)		D	ilution Fa	ctor		
2X / Soii(ug/g)		*M	oisture _			
<u>/_/</u> Other	· - ···-					
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnioropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
)				
	1	-				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		Ĺ	ab Sample	No.	35790-4	
Cinent		F	ield Sampl	e No. 16-E	VP3-SB3-SS	2-2.5-170
Project AF Plant 42-IRP	- I <u>I</u>	٥	ate Collec	ted	2-5-86	
Client No.			ate Receiv			
Laboratory Supervisor Approvi			ate Analyz			
		Q	C Report N	o	8020-15	
Sample Matrix:						
<pre>// Water (ug/L)</pre>		٥	filution Fa	ctor		
<u>/X</u> / Soil(ug/g)			loisture _			
/_/ Other					~ ~~~~~~~~~~~	
Spike Source						
1						
Compound		ncentratio Column 1				Notos
Compound	Det Lim	COTGEST 1	COTUMIT Z	Cordinit	CO Taimir Z	Notes
Benzene	0.005	ND<0.005				1
Cnloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichionopenzene	0.005	ND<0.005				
Ethyl penzene	0.005	ND<0.005				!
Toluene	0.005	0.009				;
Xylenes (Dimetnyl benzene)	0.005	ND<0.005				
!	1					
1	1	İ		į.	Ì	İ

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 October 8, 1986

Attn: Mark Guthrie

Page 1 of 26

February 7, 1986

56394

35802/lac

REVISED REPORT

Four (4) soil samples.

Sample Numper	_Date_	Time
16-EVP3-SB4-SS5-10-ITC	2-5-86	1530
16-EVP3-SB4-SS10-30-ITC	2-5-86	1530
16-EVP3-SB4-SS15-10-ITC	2-5-86	1530
16-EVP3-SB4-SS14-50-ITC	2-6-86	0830

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Texman liquid sample concentrator and a Varian 6000 gas enromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8023. The results are listed on the following summary sheets.

In addition, the samples were extracted according to soluble CAM Title 22 and analyzed by AAS and ICP. The samples were analyzed on a soluble basis, therefore they are reported as Micrograms Per Milliliter(ug/ml). Unable to do spikes on a soluble extract without changing the extraction conditions. The cyanides were distilled and determined by Standard Methods 412B and 412E. The results are listed in the following Metals and Environmental Quality Parameters summary sheets.

William F. Farmy -

William P. Fassinger Chemist Richard L. Merrell Laboratory Director

ANALYTICAL RESULTS SUMMARY Metals

Page: 2 Job #35802

ES Job No. 56394

Client
Project No. AF Plant 42 IRP II Sample Matrix:

Client No. (ug/L)

Date Collected 2-5-86

Date Received 2-7-86

(1) Other

QC Report No. 66700-3 Laboratory Supervisor Approval:

Dilution Factor * Moisture

0.6 ND<0.01 0.003
ND<0.03 ND<0.06 ND<0.2
00 0 VIN
35802-2

If % moisture is reported, results ** F = Fla
 are presented on a dry-weight basis.

F = Flame AAS C = Cold Vapor AAS G = Graphit Furnace AAS H = Hydride Vapor AAS P = Inductively Coupled Plasma

QUALITY CONTROL RESULTS SUMMARY Metais

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Page: 3 Job #35802

OC Report No. 66700-3 Laboratory Supervisor Approval:

...

Sample Matrix:

Water (ug/L)

Soil (ug/ml) ×

Orlution Factor *Moisture

Analyte	Laboratory Sample Nos.	Sample Nos.		** And].			uplicati	65	i	Spiked Recovery	ecovery	
Metal	Duplicates	Spike	Date Anai.	Method	B lank	5	C2 RPD	0d2 1	Vs.	SR	SSR	<u>۳</u>
	23				>QN	ND<	>QN					
Arsenic	75802 4asb	NV	2/10	9	0.03	0.03	0.03	1 1	-			
Barium	\$ 5802 4a&b	N	2/14	đ	NU< 0.3	2.4	2.2	8.7				
	~					ND<	ND.					
Cadmium	75802 4a&b	NA	2/14	۵		0.03	0.03	1			1	
	3	•	,	Ċ		VD×	VOV.					
Chromium	72802 4a&D	AA	2/14	J-		0.0b	0.06	;	-			
Lead	\$5802 4a&b	NA	2/14	a.		0.2	0.2	i		_		
	2					>QN	×QN	ļ !				
Mercury	25802 4a&b	NA	2,14	ပ		0.01	0.01	1				1
	•					ND<	>GN					
Selenium	25802 4a&b	NA	2/11	ပ		0.003	0.003] 	,			
	3,					YON	>QN					
Silver	25802 4a&b	NA	2/14	٩	0.03	0.03	0.03	1 1 1				}
Nickel	3/5802 4a&b	NA	2/14	ď	ND< 0.13	0.2	0.2	0				
					i 							

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

ANALYTICAL RESULTS SUMMARY Environmental Quality Parameters

Page: 4 Job #35802

ES Job No. 56394		UC Report No. 412F-3
Client		Laboratory Supervisor Approva
Project No. AF Plant 42 IRP II	Sample Matrix:	
Client No.	/_/ Water (ug/L)	Dilution Factor
Date Collected 2-5, 6-86	(8/8n) (108 /X/	* Moisture
Date Received 2-7-86	/ / Other	

The second secon	1 .5		.i			:		
Field Sample No.	Lab Sample No.	CN		1	i) 1, 1,	2 300 5
16-EVP3-SB4-SS5- 10-ITC	358021	ND<0.5	-	ļ	-			
16-EVP3-SB4-SS15- 10-ITC	35802-2	ND<0.5						
16-EVP3-SB4-SS10- 30-ITC	35802-3	ND<0.5						
16-EVP3-SB4-SS14- 50-ITC	35802-4	ND<0.5						
Date Analyzed	Σ.	2/7						
Analytical Method	**	412E						

 $[\]star$ - If \$ moisture is reported, results ** are presented on a dry-weight basis.

Engineering-Science

QUALITY CONTROL RESULTS SUMMARY FOVIronmental Quality Parameters

Page: 5 Job #35802

Sample Matrix:

Water (ug/L)

Soil (ug/g) Other ×

Spike Source(s)

Dilution Factor *Moisture_

QC Report No. 4126-3 Laboratory Supervisor Approval:

1 a	81	!	 	! !	1 1 1	<u> </u>			: :	i	!	! !
ssR SSR	16.08			:			:					
Spiked Recovery	ND<0.5 16.08									; ;		
¥5.	19.82									! !		i i
es RPD	C. A	•		·	,				:		! ! !	
Dupineates (2)	15.76							:		!	!	
- 5	16.40					!				:	:	
Blank	ND<0.1						: ! !			:		
** Anal. Method	412F							1				
Date Anal.	2/14											
Sample Nos. Spike	35802 4b&c											
Laboratory Sample Nos Duplicates Spike	35802 4b&c											
Analyte Metal	Cyanide								 		† •	

 $[\]star$ - If \$ moisture is reported, results ** are presented on a dry-weight basis.

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample No	s. 16 EVP3-SE4-SS5-10-ITC	QC Report No.	8010-15	
Duplicates	35802-14, 35802-15	Date Analyzed		
Spike	35802-16	Laboratory Supervi	son Approval:	
Sample Mathi	:			
′ Water	(ug/L)	Dilution Factor	NA	
Soil	(ug.'g)	*Moisture		<u></u>
other				
Spika Squmla				

		Du	plicate	es		Spike_	Recover	·y	
Compound	Blank	C1	C2	RPD	SA	SR	SSF	PE	- Notes
Benzy' chlonide	80.δ10	8.610	₩ [©] δ10			k0.010		 	<u> </u>
bis(2-Chloroethoxy)methane	θ [.] δ10	80.δ10	₩º.გ10			k0.010			1
bis(2-chlorofsopropy1)ether	N ^D δ10	8.610	θ. δ10			k0.010		<u> </u>	
Bromopenzene	8.610	80.610	0.610			0.010			
Bromodichloromethane	θ [.] δ10	θ.δ10	8º.ºб10		0.050	0.010	0.038	76	1
Bramaform	θ [.] 610	8.5610	₩ ^D . б10		0.050	0.010	0.055	110	İ
Snomomethane	80.610	80.610	ND δ10			k0.010		ļ	
Camber tetrachloride	9.0 ₁₀	θ ⁰ .δ10	ND δ10		0.050	k0.010	0.029	58	
Chloroacetaldenyde	80510	0.610	₿ [©] &10		}	ko.010			
Orlanel	0.610	8.610	წეგენ ე			0.010			
Chlorobenzene	θ.δ10	0.510	0.010		0.050	0.010	0.035	70	i
Chloroethane	b.∂10	0.610	β [⊃] δ10			k0.010			
Chionoform	80.810	₩ ⁰ .510	₩ენეი ს.მეი		0.050	0.010	0.041	ε2	
1-Or Tomohekane	₩ ^D &10	θ.δ ₁₀	80.610			0.010			
2-Orlonoethyl vinyl ethen	85510	ð∵ó10	ND. 6.610			0.010		ļ	
Chichonethane	80.810	₩D.610	θ ^D δ10			0.010		<u> </u>	
Chichomethy: methyl ethen	θ ² δ10	Nº. 610	₩ ^D δ10			k0.010		ļ	
Grionotoluene	^{β2} δ10	₩.610	ND δ10			0.010			
Discomponisherethane	Ŋ ⁰ .δ10	180610	80610		0.175	k0.010	0.150	85	İ

continued on next page

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

16-EVP3-SB4-SS5-10-ITC

	, <u></u>	==-			1 -				*=====================================
			plicate	es		Spike R	ecovery	·—	1
Compaynd	Blank	C1	C2	RPD	SA	SR	SSR	PR_	Notes
•	ND<	NO<	ND<		i				
Diphomomethabe	0.010	0.010	0.010			<0.010			
Dichionoaifluoromethane	<u>θ.610</u>	8 ² 610	θ ⁰ δ ₁₀			<0.010			<u> </u>
1,1-Dromioroethane	8º810	გ ^ე გ ₁₀	ð ^D δ10		0.050	<0.010	0.033	66	<u> </u>
1,2-Dichlorcethane	1 80.010	80810	8º.610		0.050	<0.010	0.030	60	
1,1-Dichiornethylene	8º. 610	θ ^D . ό10	₩ ³ 610		0.050	<0.010	0.039	78	<u> </u>
trans-1,2-dichioroethylene	θ ⁰ .δ10	შ ^ე გე	89á10		0.050	<0.010	0.032	64	<u> </u>
Dichlonomethane	8º. 610	წეგე ე_გე	მეგენე		0.050	<0.010	0.031	62	
1,2-Dichleropropage	θ ² δ10	₩ ^D . 510	შ ^ი გეე		0.070	<0.010	0.055	79	i
1,3-Dichloropropylene	θ ^D δ10	θ [.] δ10	80.61c		0.175	<0.010	0.150	_86_	
1,1,2,2-Tetrachionoethane	8 ⁰ .810	ND δ10	ტეგე _ნ ე		0.100	<0.010	0.077	77	
1,1,1,2-Tetrachiorcethane	<u>ტე</u> გ ₁₀	ტეგ ₁₀	80.610			<0.010			ļ
Tetrachionoethylene	8º.610	₿ [₽] 610	8.61c		0.100	<0.010	0.077	77	<u> </u>
1,1,1-Trichloroethane	შ ^ე ბ10	შ ^ე გე	ზ ^ე გე0		0.050	<0.010	0.031	62	<u> </u>
1,1,2-Trichlordethane	80 <u>610</u>	θ <u>.</u> δ10	8 ⁰ δ10		0.175	<0.010	0.150	85	1
Interlargetry tens	<u>θ.δ10</u>	შ ^ი გენ10	8º810		0.050	<0.010	0.037	74	1
Intenierofiuoromethane	8º810	შ ^ი გენეი	θ ⁰ .δ10			<0.010			ļ
Trichloropropane	9º. 610	80.510	<u> </u>			<0.010			<u> </u>
Vinyl crloride	80810	8º.610	შ ^ე წ10			<0.010			<u> </u>

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35802-11
Client	Field Sample No.	16-EVP3-SB4-SS10-30-ITC
Project <u>AF Plant 42 IRP II</u>	Date Collected	2-5-86
Client No.	Date Received	2-7-86
Laboratory Supervisor Approval:	Date Analyzed	2-11-86
	QC Report No.	8010-15
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	NA
$\frac{/X}{/}$ Soil (ug/g)	*Moisture	<u>%</u>
/_/ Other		
Spike Source		

•	c	Concentrati Column 1	or ,	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Nates
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010			!	
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010			1	
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

16-EVP3-SB4-SS10-30-17

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				<u> </u>
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dychlondethane	0.010	ND<0.010				
1,1-Dichlorcethylene	0.010	ND<0.010				
trans-1,2-dichloroetrylene	0.010	ND<0.010				<u> </u>
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010			<u> </u>	
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-TetrachToroethane	0.010	ND<0.010				
1,1,1,2-Tetrachlordetmane	0.010	ND<0.010				ļ
Tetrachioroethylene	0.010	ND<0.010				<u> </u>
1,1,1-Trichlorgethane	0.010	ND<0.010				
1,1,2-Trichlonoethane	0.010	ND<0.010				İ
Inichloroethylene	0.010	ND<0.010				Í
Inteniorofluorometrane	0.010	ND<0.010				}
Inichloropropare	0.010	ND<0.010				
viny: chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35802-12
Client	Field Sample No.	16-EVP3-SB4-SS14-50-ITC
Project AF Plant 42 IRP II	Date Collected	2-6-86
Client No.	Date Received	2-7-86
Laboratory Supervisor Approval:	Date Analyzed	2-11-86
	QC Report No	8010-15
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	NA
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chicrcethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dipromochloromethere	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY THE opens He volatife Organics Sw Method 6010

16-EVP3-SB4-SS14-F1-1

		Curdennation			Retention Time		
*: * ;		ig. Jeniji		Calumn 1	Column 2	្តី សេ <u>ត្</u> រក	
en en en en en en en en en en en en en e		! North again.	·			1	
r i tilli tetta		1.7.2.9:0_	<u> </u>			<u> </u>	
		1.NGK0.010					
grand the second		1.42.0.010					
and the second second second		! ND<0.011					
the second second second	0.010	ND<0.010	<u> </u>				
grand and the state of the stat		.2≼9.0 <u>10</u>					
. In the highlight		\0<0.010	· ! !				
The second of the many when the	12016	NOKE.010					
ini -Teshash on Afrankiji		NO<0.010					
Terra e e e e e e e e e		NDK0.010					
were a second of the second	10.0:0	i NOKO . 010					
iji ti ji tan milinganahana	19.2:2	ND<0.010					
	0.010	<u> NO-00.010 </u>				<u> </u>	
يدمني ومعني	<u></u>	NO/0.015	1	<u> </u>			
The second of the second of the second of the second of the second of the second of the second of the second of	14.0:0	V0<0.010		! 		İ	
n transit tigath	10.0:0	ND40.010					
	5.010	N0 < 0.010					

 $(x_0 + x_0) = x_0 + x_$

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35802-13
Client	Field Sample No.	16-EVP3-SB4-SS15-10-ITC
Project <u>AF Plant 42 IRP II</u>	Date Collected _	2-5-86
Client No.	Date Received _	2-7-86
Laboratory Supervisor Approval:	Date Analyzed _	2-11-86
	QC Report No	8010-15
Sample Matrix:		
<pre>/ Water (ug/L)</pre>	Dilution Factor	NA
/X / Soil (ug/g)	*Moisture	ુ લુ
/_/ Other		
Spike Source		

Compound	C Det Limi	oncentrati Column I	on Column 2	Retenti Column 1	Notes
Benzyl chloride	0.010	ND<0.010			
Bis(2-Chloroethoxy)methane	0.010	ND<0.010			
Bis(2-chloroisopropyl)ether	0.010	ND<0.010			
Bromobenzene	0.010	ND<0.010			
Bromodichloromethane	0.010	ND<0.010			
Bromoform	0.010	ND<0.010			
Bromomethane	0.010	ND<0.010			
Carbon tetrachloride	0.010	ND<0.010			
Chloroacetaldehyde	0.010	ND<0.010			
Chloral	0.010	ND<0.010			
Chlorobenzene	0.010	ND<0.010			
Chloroethane	0.010	ND<0.010			
Chloroform	0.010	ND<0.010			
1-Chlorohexane	0.010	ND<0.010			
2-Chloroethyl vinyl ether	0.010	ND<0.010			
Chloromethane	0.010	ND<0.010			
Chloromethyl methyl ether	0.010	ND<0.010			
Chlorotoluene	0.010	ND<0.010			
Dibromochloromethane	0.010	ND<0.010			

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB4-SS15-10-ITC

	Co	ncentratio	n	Retenti	1	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	<u> Notes</u>
Dipromomethane	0.010	ND<0.010				<u> </u>
Otenloroeifluonomethane	0.010	ND<0.010				
1,1-0:cnloroetname	0.010	ND<0.010				
1,2-Dichlordethage	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010		<u> </u>		<u> </u>
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichleromethane	0.010	ND<0.010				<u> </u>
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachionoethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroetname	0.010	ND<0.010				
Inschloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Frichloropropane	0.010	ND<0.010				
Vanyl chloride	0.010	ND<0.010				İ

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35802-14
Client	Field Sample No.	16-EVP3-SB4-SS5-10-ITC
Project AF Plant 42 IRP II	Date Collected _	2-5-86
Client No.	Date Received _	2-7-86
Laboratory Supervisor Approval:	Date Analyzed _	2-11-86
	OC Report No.	8010-15
Sample Matrix:		
<pre>/_/ Water (ug/L)</pre>	Dilution Factor	NA
<u>/X</u> / Soil (ug/g)	*Moisture	<u> </u>
// Other		
Spike Source		

	Concentration		Retention Time			
Compound	Det Lim			Column 1	Column 2	Notes
Benzyl chloriae	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010	 -			
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				-
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

16-EVP3-SB4-SS5-10-ITC

:	Concentration			Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Drunlorodifluoromethane	0.010	ND<0.010				
1.1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				<u> </u>
Dictionomethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
:,3-D:cnloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroetnane	0.010	ND<0.010				
1,1,1.2-Tetrachionoethane	0.010	ND<0.010				
Tetracricroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				<u> </u>
1.1.2-Trichloroethane	0.010	ND<0.010				
Trichlordethylene	0.010	ND<0.010				
Trichleroflucromethane	0.010	ND<0.010				
Trichlorophopane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				<u> </u>

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35802-15	DUP.
Client		16-EVP3-SB4-SS5-10	
Project AF Plant 42 IRP II	Date Collected _	2-5-86	
Client No.	Date Received	2-7-86	
Laboratory Supervisor Approval:	Date Analyzed		
	QC Report No.	8010-15	
Sample Matrix:			
<u>/</u> / Water (ug/L)	Dilution Factor _	NA	
<u>/X</u> / Soil (ug/g)	*Moisture		55
/_/ Other			
Spike Source			

		oncentrati		Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chlora!	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB4-SS5-10-ITC Does.

	Concentration Retention Time				on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				ļ
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				<u> </u>
1,2-Dichioropropane	0.010	ND<0.010				<u> </u>
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-TetrachToroethane	0.010	ND<0.010				
Tetrachloroetrylene	0.010	ND<0.010				
1,1,1-Trichlorcethane	0.010	ND<0.010				
1,1,2-Trichioroethane	0.010	ND<0.010				
Interleroethylene	0.010	ND<0.010				
Intenierofluoromethane	0.010	ND<0.010				
Trichloropropase	0.010	ND<0.010				<u> </u>
Viny: chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35802-16	SFIKE
Client	Field Sample No.	16-EVP3-SB4-SS5-	10-ITC
Project AF Plant 42 IRP II	Date Collected	2-5-86	
Client No.	Date Received	2-7-86	
Laboratory Supervisor Approval:	Date Analyzed	2-11-86	
	QC Report No.	8010-15	
Sample Matrix:			
<u>/_</u> / Water (ug/L)	Dilution Factor _	NA	
<u>/X</u> / Soil (ug/g)	*Moisture		ું ર
/_/ Other			
Spike Source			

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	0.038		13.9		
Bromoform	0.010	0.039		19.2		
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	0.029		13.5		· - · · · · · · · · · · · · · · · · · ·
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	0.035		24.0		
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	0.041		11.1		
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	0.150		16.7		

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ANALYTICAL RESULTS SUMMARY halogenated Volatile Organics SW Method 8010

16-EVP3-S54-SS5-10-ITC SFIRE

!	Co	ncentratio	r	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Diphomomethane	0.010	ND<0.010				
Dichlorod:fluonometrane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	0.033		9.9		<u> </u>
1,2-Dichiphoetmane	0.010	0.030		11.6		
1,1-Dichloroethylene	0.010	0.039		ε.7		
trans-1,2-dichloroethylene	0.010	0.033		10.6		
Dichloromethane	0.010	0.031	<u></u>	6.1		
1,2-Dichlorophopane	0.010	0.055		15.2		
1,3-Dranjarapropyjene	0.010	0.150		16.7		
1,1,2,2-letrachloroethane	0.010	0.077		21.5		
:,1,1,2-Tetrachionoethane	0.010	ND<0.010				
Tetrachionoethylene	0.010	0.077		21.5		
1,1,1-Trichloroethane	0.010	0.031		12.6		
1,1,2-Trichloroethane	0.010	0.150		16.7		<u> </u>
Thichichoethylene	0.010	0.036		16.8		1
Intohlorofluoromethane	0.010	ND<0.010				<u> </u>
Trignionophopane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				<u> </u>

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Anomatic Volatile Organics SW Method 8020

Lab Sample Nos. 16-EVP-SB4-SS	S15-10-I	TC	Q	C Repor	t No.	8020-	15A		
Dubitcates 35802-5, 35802-6	5		D	ate Ana	îyzed	2-13-	86		
Spike 35802-7			L	aporato	ry Sup	2rv150	r Appro	vai:	
Sample Matrix:									
<pre>/// / Water (ug/L)</pre>			D	ilution	Facto	^	NA		
				oisture					
Other									
Spike Sounce									
	· · · · · · · · · · · · · · · · · · ·	1							
1		Du	plicat	es	S	oike R	ecovery	,	
Compound	Blank		C2			SR		PR	Notes
	ND<	ND<	>CN			ND<			
Benzene	0.005		0.005		0.052		0.042	80	· • · · · · · · · · · · · · · · · · · ·
i.	ND<	>GN	ND<		i i	ND<			
Cnioropenzene	0.005	÷	0.005		0.055		0.055	100	 -
i	ND<	=	ND<			ND.		j	j
1,2-Dichlonobenzere	0.005	+	0.005		0.053		0.053	100	; -
	ND<	>GM	ND<	ļ		>GM		İ	!
1,3-Dichionocenzene		0.005			0.064		0.063	98	_
	ND<	ND<	>CM			>GN		İ	1
1,4-Dichloropenzene	0.005	+	0.005				0.050	96	i -+
į	ND<	ND<	ND<		. 1	>CM		!	1
<u>įEtryi benzens – </u>		0.005					0.048	92	
	ND<		ND<			ND<		i	
Toluere	·	0.005	· ·		+		0.041	82	· •
	ND<	1 -	ND<		: !	>CM		į	1
Xylenes (Dimetry) benzene)	0.005	0.005	0.005			0.005	<u></u>		·
	į						ĺ	į	
· · · · · · · · · · · · · · · · · · ·	ļ	<u> </u>						 	<u> </u>
		-							i
<u>,</u>	ļ	 			<u> </u>			 	<u> </u>
1	1	i i						!	1

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		L	ab Sample	No	35802-5	
Client		F	reld Sampl	e No. <u>16-E</u>	VP3-584-SS	<u> 15-10-17</u> :
Project <u>AF Plant 42 IRP-I</u>	<u> </u>	0	ate Collec	ted	2-5-86	
Client No.			ate Receiv	ed	2-7-86	
caponatony Supervisor Approve	aì:	D	ate Analyz	ed	2-13-86	
	-		C Report N			
Sample Matrix:						
Water (ug L)		۵	ilution Fa	ctor	NA	
> Son' (ug g)		*M	loisture			9
<u> </u>						
Spirke Source						
	Co	ncentratio	ın.	Retenti	on Time	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Сощьючья			Column 2	Column 1	Column 2	Notes
i Benzeny	0.005	ND<0.005				! !
<u>Chlanopenzene</u>	0.005	ND<0.005				
<u>, 1,2-Oronisropeogene</u>	0.005	ND<0.005				
1,3-1 par langgenzene	0.005	ND<0.005	; ! 			
_1,4-0:on`unupenzene	0.005	ND<0.005				
i <u>Esp</u> y content	300.0	 ND<0.005			: 	
To pere	0.005	ND<0.005				
_xy`enes (Dimetny) benzeme) _	0.005	NEKO.005				:
p	<u> </u>	:			 	
,	:	<u> </u>	1		1	!
	1	į	:	İ	1	i

NS - This compound was not detected; the limit of detection for this analysis is less transfer amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Anotatic Volatile Organics SW Method 8020

ES Job No56394		Ĺ	ab Sample	Nc	35802-6	<u> </u>		
Corent		F	Held Sambl	e No. <u>16-E</u>	VF3~ S B4-SS	15-10-170		
Project <u>AF_Plant_42_IFP-I</u> I	·	0	ate Collec	tea	2-5-26			
Cinert No.		Date Received 2-7-86						
caponatony Subervisor Approva	∃ [†] :	מ	ate Analyz	ea	2-13-86			
	_ .	Q	C Report N	o	8020-15A			
Sampie Mathix:								
water (ugit)		Đ	nlution Fa	ctor	NA.			
_t Sonlingg)		*M	loisture			9		
Ctren					· · · · · · · · · · · · · · · · · · ·			
Spike Source	··· ·· ·							
	Co	encentratio	ام 	Retenti	on Time			
Compound			Column 2			Notes		
Benzene	0.005	ND<0.005						
<u>Collonopenzere</u>	0.005	ND<0.005						
2-Dianlanopenzana	0.005	ND<0.005				1		
1.3-3jorionocenzere	0.005	ND<0.005						
1,4-Bichlenedenzane	0.005	ND<0.005				1		
Eth. Cenzece	0.005	ND<0.005			! ! 			
Toluene	0.005	ND<0.005						
Yylenes (Olmetry) penzene)	10.005	ND<0.005						
	1	! 						
	·	1	•		<u> </u>	;		
	i 1	i 	: 	! 		:		

 $^{^{}h}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volacile Organics Sw Method 8020

Client Field Sample No. 16-EVP3-S84-3518-1 Project AF Flant 42 IPF-II Date Collected 2-5-86 Client No. Date Received 2-7-66 Laboratory Supervisor Approval: Date Analyzed 2-13-86 QC Report No. 8020-184 Sample Matrix:
Project AF Flant 42 IFF-II Date Collected 2-5-86 Client No. Date Received 2-7-66 Laboratory Supervisor Approval: Date Analyzed 2-13-86 QC Report No. 8020-164
Cinent No. Date Received 2-7-66 Laboratory Supervisor Approval: Date Analyzed 2-13-86 QC Report No. 8020-184
Date Analyzed 2-13-86 QC Report No. 8020-164
QC Report No. 8020-154
Sample Matnix:
water (ug.) Dilution Factor NA
X Sort (ug/g) *Moisture
Otner
Spike Sounce
Concentration Retention Time
Compound Det Lim Column 1 Column 2 Column 1 Column 2 Notes
Berzene 0.005 0.042 2.6
<u>Onloropenzene</u> 0.005 0.055 8.0
1.2-Dichichopenzene 0.005 0.053 14.6
0.003
1,3-Dichionocenzene 0.005 0.063 13.0
1.4-0:chionopersene 0.005 0.050 12.6
Ethyl penzere 0.005 0.048 7.5
Toluene 0.005 0.041 4.9
Xylenes (Simethyl benzene)

 $^{{\}rm NC}$ - This compound was not detected, the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Anomatic Volatile Organics SW Method 8020

ES Jor No. <u>56394</u>		Ĺ	ao Sample	No	35802-4	
Client		F	ield Sampl	e No. 16-E	VP3-SB4-SS	5-10-1
Project AF Plant 42 IR			ate Collec	ted	2-5-86	
Client No.		Ö	ate Receiv	ed	2-7-86	
Laboratory Supervisor App		D	ate Analyz	ea	2-13-86	
	·	Q	C Report N	0	8020-154	
Sample Mathix:						
/ Water (ug/L)		D	ilution Fa	ictor	NA	
<u>/X</u> / Soil (ug/g)		* M	oisture			
<u>/ Other</u>						
Spake Sounce						
				1		
· · 1	Co	ncentratio	ŗ	Retenti	on Time	
Compound		Column 1			Column 2	Notes
Bergene	0.005	ND<0.005				

	Co	ncentratio	ŗ	Retenti	on Time	
Compound	Det Lim		Column 2	Column 1	Column 2	Notes
Berzene	0.005	ND<0.005				
Chlonopenzere	0.005	ND<0.005				
1,2-01phlonopenzene	0.005	ND<0.005				
:,3-u-chlonopenzene	0.005	ND<0.005				
1,4-0107 onobenzene	0.005	ND<0.005				:
Ethyl penzene	0.005	ND<0.005				
Tolgery	0.005	ND<0.005				
<u> Ayirnes (Dimethy) benzene)</u>	C.005	ND<0.005				
	1					
	ļ					
	1	; 	1 1 1		! !	

NL > This compound was not detected, the limit of detection for this analysis is less than the amount stated in the table above.

Engineering Spience Page IE

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. <u>56394</u>	·····	Ł	ab Sample	No	35802-8		
Client		F	ield Sampl	e No. <u>16-E</u>	VP3-SB4-SS1	.0-30-ITC	
Project AF Plant 42 IRP-I		Ω	ate Collec	ted	2-5-86		
Client No.		Date Received 2-7-86					
Laboratory Supervisor Approve			ate Analyz	ed	2-12-86		
		Ç	C Report N	lo	8020-15A		
Sample Mathix:							
/ Water (ug/L)			ilution Fa	ictor	NA		
<u>/X_</u> / Soil (ug/g)		*N	loisture _			ક	
Other							
Spike Sounce							
p = 1	,			\$11.60			
		phoentrati			or Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
l Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichlorobenzene	0.005	ND<0.005			<u> </u>		
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichlorobenzene	0.005	ND<0.005				·	
Ethyl benzene	0.005	ND<0.005		<u> </u>			
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					
!		1					
		1 ————	T				

^{+ -} If % maisture is reported, results are presented on a dry-weight basis.

 $^{^{+}}$ 0 - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

TP - Thace, this compound was present, but was below the level at which concentration could be determined.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Joo No. 56394		L	ab Sample	Nc	35802-7		
Client		Field Sample No. <u>16-EVP3-SB4-SS14</u>					
Project <u>AF Plant 42 IRP-I</u>	<u> </u>	Date Collected 2-6-86					
Client No.		Date Received 2-7-86					
Laboratory Supervisor Approvi		Date Analyzed 2-12-86					
		Q	C Report N	0.	8020-15		
Sample Matrix:							
<pre>∠_/ Water (ug/L)</pre>		D	ilution Fa	ctor	MA		
<u>/X</u> / Soil (ug/g)		*M	oisture				
/_/ Other							
Spike Source				<u>.</u>			
						Τ	
1	Co	ncentratio	n	Retenti	on Time	1	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005				<u> </u>	
Chlorobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichloropenzene	0.005	ND<0.005				i i	
1,4-Dichioropenzene	0.005	ND<0.005				<u> </u> 	
Ethyl penzene	0.005	ND<0.005				·	
Toluene	0.005	ND<0.005				 	
Xylenes (Dimethyl benzene)	0.005	ND<0.005					
<u> </u>	1						
1						}	

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.



ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. Arcadia, CA 91006

October 8, 1986

Attn: Mark Guthrie

Page 1 of 20

February 7, 1986

56394

35803/lac

REVISED REPORT

Four (4) soil samples.

Sample Number	Date	Time
16-EVP3-SB3-SS5-10-ITC	2-5-86	1130
16-EVP3-SB3-SS10-30-ITC	2-5-86	1130
16-EVP3-SB3-SS14-50-ITC	2-5-86	1130
16-EVP3-SB4-SS2-2.5-ITC	2-5-86	1530

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Texman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were extracted according to soluble CAM Title 22 and analyzed by AAS and ICP. The samples were analyzed on a soluble basis, therefore they are reported as Micrograms Per Milliliter(ug/ml). Unable to do spikes on a soluble extract without changing the extraction conditions. The cyanides were distilled and determined by Standard Methods 412B and 412E. The results are listed in the following tables.

William F. Farrage

William P. Fassinger

Chemist

Richard L. Merreli Laboratory Director

Engineering-Science

ANALYTICAL RESULTS SUMMARY MELATS

Page: 2 Job #35803

> FS Job No. 56394 Client

Project No. At Plant 42 IRP-11

Client No.

Client No.

Date Collected 2-5-86

Date Received 2-7-86

Sample Matrix:

/_/ Water (ug/L) /X/ Soil (ug/ml) // Other

QC Report No. 66700-3 Laboratory Supervisor Approval:

Dilution Factor * Moisture

Se Ag Ni	ND ND ND ND
_	
0.01	
0.61	0.01
0.01 0.01 ND <	0.01 ND<
ND< ND< 0.06 0.2 ND< ND<	
	ND< 0.03
-	
	4.4
	ND< 0.03
	35803-1
	16-EVP3-SB4-SS2- 2.5-IIC

If % moisture is reported, results **
 are presented on a dry.weight basis.

 $F \approx F$ lame AAS $C \approx Cold$ Vapor AAS $G \approx G$ control furnace AAS $H \approx Hydride$ Vapor AAS $P \approx F$ reductively founded Plasma

IT CORPORATION

QUALITY CONTROL RESULTS SUMMARY

Engineering-Science

Motals

Page: 3 Job #35803

Laboratory Supervisor Approval: QC Report No. Dilution Factor No Duplicates run. *Moisture Water (ug/L) Soil (ug/ml) Spike Source(s) Sample Matrix: Other ___ ×

$\overline{}$							 			 	
	Notes	:	:			† !		! !			:
	PR		1		- -	· :					
covery	SSR	:									· · · · · · · · · · · · · · · · · · ·
iked Re	SR						,				
S	SA	:									
S .	RPD										
olicate	C2	· (;								
O	C1 C2 RPD SA SR SSR										
	Blank										!
** Anal.	Method										
$\overline{}$	Date Anal.										
Sample Nos.	Spike										
Laboratory :	Duplicates Spike										,
Analyte											,

* - If % moisture is reported, results ** are presented on a dry-weight basis.

Engineering-Science

ANALYTICAL RESULTS SUMMARY Fnvironmental Quality Parameters

Page: 4 Job #35803

ES Job No. 56394 Client	4	S. S. S. S. S. S. S. S. S. S. S. S. S. S	. with the Mainter	ڹ		QC F Labo	QC Report No. 412E-4 Laboratory Supervisor Approval:	412E_ uperviso	4 r Appro	ova i
Client No. Date Collected 2-5-86 Date Received 2-7-86	-86 -86	/~/ /×/	Water (ug/L) Soil (ug/g) Other	1/6) 1/6)	1	Dilu * Mc	Dilution Factor * Moisture	tor	i i	1 -
Field Sample No.	Lab Sample No.	S			1 i	!	1	· ·		
16-EVP3-SB3-SS5- 10-ITC		0.67					···			
16-EVP3-SB3-SS14- 50-ITC	35803-2a	0.46								
16-EVP3-SB3-SS10- 30-ITC	25803-3	ND<0.5					•			
16-EVP3-SB4-SS2- 2.5-ITC	35803-4	0.46								
					[
										
										
									ļ	<u></u>
Date Analyzed	Σ	2/7							; ;	
Analytical Method	*	412-E						:		

 $[\]star$ - If % moisture is reported, results ** are presented on a dry-weight basis.

Engineering-Science

QUALITY CONTROL RESULTS SUMMARY Environmental Quality Parameters

Jeb #35803 Page: 5

Î

Sample Matrix:

Water (ug/L) Soil (ug/g) /x/

// Other Spike Source(s)

Other

Dilution Factor *Moisture_

Laboratory Supervisor Approva OC Report No.

i	ря	47	ļ				! !				
covery	SSR	4.20						1			
iked Re	SR	0.46 4.20		-							
Sp	SA SR SSR	7.98									
l sa	RPD										
uplicat	Blank C1 C2 RPD	۷	1								
0	C3	NA	1								
	Blank	ND<0.1									
** Anal.	Method	412E									
** Anal.	Date Anal.	1/2									
Sample Nos.	Spike	35802-2b									
Laboratory ;	Ouplicates Spike	NA									
Analyte	Metal	Cyanide									

 $[\]star$ - If \$ moisture is reported, results $\star\star$ are presented on a dry-weight basis.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35803-5
Client	Field Sample No.	16-EVP3-SB4-SS2-2.5-ITC
Project AF Plant 42 IRP	Date Collected	2-5-86
Client No.	Date Received	2-7-86
Laboratory Supervisor Approval:	Date Analyzed _	2-12-86
	QC Report No.	8010-15
Sample Matrix:		
// Water (ug/L)	Dilution Factor _	N/A
/X / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzy¹ chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB4-SS2-2.5-070

	Co	ncentratio	n	Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlerodifluoromethane	C.010	ND<0.010				
1,1-Dichiproetname	0.010	ND<0.010		-~-		
1,2-Dicrloroetname	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010	-			
Trichloropropane	0.010	ND<0.010				<u> </u>
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35803-6
Client	Field Sample No.	16-EVP3-SB3-SS5-10-ITC
Project AF Plant 42 IRP	Date Collected _	2-5-86
Client No.	Date Received	2-7-86
Laboratory Supervisor Approval:	Date Analyzed _	2-12-86
	QC Report No	8010-15
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	
/_/ Other		
Spike Source		

Connected	С	Concentration		Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				<u>-</u>
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010	+			
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethy ¹ methy ¹ ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Onganics Sw Method 8010

16-EVP3-SB3-SS5+10-170

!	Co	ncentratio	n	Retenti		
<u>Compound</u>	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dichomomethane	0.010	NEKO.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dicalchoetname	0.010	ND<0.010				
1,1-Dichlordethylene	0.010	N:0<0.010				
trans-1,2-qichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichionophopylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethare	0.010	ND<0.010				
1,1,1,2-Tetrachlordethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichionoethans	0.010	ND<0.010				<u> </u>
Trichloroethylene	0.010	ND<0.010				
Intorionofluonomethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35803-7
Client	Field Sample No.	16-EVP3-SB3-SS10-30-ITC
Project AF Plant 42 IRP	Date Collected	2-5-86
Client No.	Date Received	2-7-86
Laboratory Supervisor Approval:	Date Analyzed	2-12-86
	QC Report No.	8010-15
Sample Matrix:		
// Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	9
// Other		
Spike Source		

	Concentration		Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.016	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Ch"oroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochioromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

16-EVP3-SB3-SS10-3 1 0

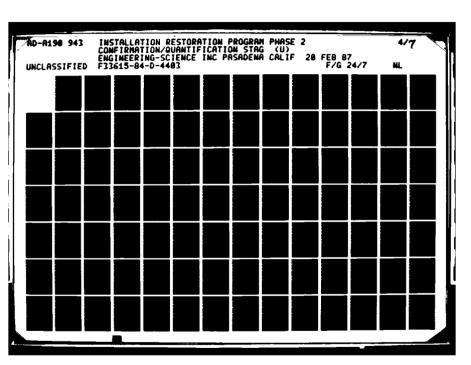
	Co	ncentratio	n	Retenti		
Сотроила	Det i.im	Column 1	Column 2	Column 1	Column 2	Notes
Cipnomomethane	0.010	ND<0.010				
Dichlanogifluaromethane	0.010	ND<0.010				<u> </u>
1,1-Dionionsetmane	0.010	ND<0.010				ļ
1,2-Dichlonoethane	0.010	ND<0.010				1
1.1-Dichionoethylene	0.010	ND<0.010				
thans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichlorophopane	0.010	ND<0.010				
1,3-Dichlorophopylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachionoethane	0.010	ND<0.010				
Tethachionoethylene	0.010	ND<0.010				
1,1,1-Tricrioroethane	0.010	ND<0.010				
1,1,2-Trichlordethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichichophopane	0.010	ND<0.010				
Viny: crioride	0.010	ND<0.010			<u> </u>	<u> </u>

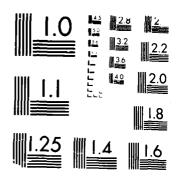
ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No.	3 5803-8
Client	Field Sample No. 1	6-EVP3-SB3-SS14-50-ITC
Project AF Plant 42 IRP	Date Collected	2-5-86
Client No.	Date Received	2-7-86
Laboratory Supervisor Approval:	Date Analyzed	2-12-86
	QC Report No.	8010-15
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	2
/_/ Other		
Spike Source		

	С	oncentrati	on	Retenti	on_Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010		-		
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				<u> </u>
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				·
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010			1	





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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Metnod 8010

16-EVP3-SB3-SS14-50-ITC

	Concentration				on Time	<u> </u>
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroetnane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				<u> </u>
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010			<u></u>	

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

Lab Sample NOS. 16-EVP3-584-5510-30-110				UC Report No. 8020-16						
Duplicates 35803-5, 35803-4	(2-14-	86)	D	Date Analyzed <u>2-14-86, 2-18-86</u>						
Spike 35803-5			L	aborato	ry Sup	ervisor	Approva	1:		
Sample Matrix:							• •			
// Water (ug/L)			D	ilution	Facto	r N	I/A			
/X / Soil (ug/g)									*	
				o i s cui e					~~	
/_/ Other										
Spike Source										
	T	T		-					!	
		Du	plicat	es		Spike Re	covery			
Compouna	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes	
	ND<	ND<	ND<							
Benzene	0.005	0.005	0.005		0.052	<0.005	0.036	69		
	ND<	ND<	ND<							
Chlorobenzene	0.005	0.005	0.005		0.055	<0.005	0.042	76		
	ND<	ND<	ND<							
1,2-Dichlorobenzene	0.005		0.005		0.053	<0.005	0.044	83		
	ND<	ND<	ND<					_		
1,3-Dichlorobenzene	0.005		0.005	 	0.064	<0.005	0.049	76		
	ND<	ND<	ND<							
1,4-Dichlorobenzene	0.005		0.005		0.052	<0.005	0.039	75		
Film 3 harman	ND<	ND<	ND<		0 050	10.005	0 000	77.0		
Ethyl benzene	0.005		0.005 ND<		0.052	<0.005	0.038	73	 	
l l Toluene	ND< 0.005	ND<	0.005		0.050	<0.005	0.041	82	1	
Tordene	ND<	ND<	ND<		0.030	10.005	0.041	- 62	 	
Xylenes (Dimethyl benzeme)	0.005	1	0.005			<0.005				
Ayrenes (binethy: belizele)	0.003	0.005	0.003			X0.003	-		 	
									1	
							1			

 $^{{\}rm NO}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		Lab Sample No. 35803-6						
Client		F	ield Sampl	e No. <u>16-E</u>	16-EVP3-SB3-SS5-10-ITC			
Project AF Plant 42 IRP-	II	٥	ate Collec	ted	2-5-86			
Client No.					2-7-86			
Laboratory Supervisor Approv		0	ate Analyz	ed	2-14-86			
			C Report N					
Sample Matrix:								
/_/ Water (ug/L)		0	ilution Fa	ctor	N/A			
<u>/X</u> / Soil (ug/g)		**	loisture					
/_/ Other						·		
Spike Source								
	Co	ncentratio	n	Retenti	on Time			
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzene	0.005	ND<0.005						
Chloropenzene	0.005	ND<0.005						
1,2-Dicnioropenzene	0.005	ND<0.005						
1,3-Dichlorobenzene	0.005	ND<0.005						
1,4-Dichloropenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	ND<0.005						
								
	1	i	1	i	i	1		

 ${\sf ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		1	an Sample	No	25802_5			
Client								
Project AF Plant 42 IRP-I			·		2-5-86			
Client No.				ed				
Laboratory Supervisor Approva		D	ate Analyz	ed	2-14-86			
	_	Q	C Report N	o	8020-16			
Sample Matrix: /_/ Water (ug/L) /X_/ Soil (ug/g) // Other	*Moisture							
Spike Source								
	Co	ncentratio	n	Retenti	on Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzene	0.005	ND<0.005						

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Notes	
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005		·		
1,4-Dichloropenzene	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ES JOD NO56394		L	ab Sample	No	35803-4	
Client		Field Sample No. 16-EVP3-SB3-				14-50-I
Project AF Plant 42 IRP-1	I	Date Collected 2-5-86				
Client No.				ed		
Laboratory Supervisor Approva					2-14-86	
		Q	C Report N	o	8020-16	
Sample Matrix:						
/_/ water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soiî (ug/g)						
// Other						
Spike Source						
	, 			1		1
	Co	ncentratio	n	Retenti	on Time	f I
Compound		Column 1			Column 2	Notes
Benzene	0.005	ND<0.005				
Cnloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Lang. Delizerie	1					
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
	+			 		

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES JOD NO50394		L	ab Sample	NO	35803-1			
Client		F	ield Sampl	e No. <u>16-E</u>	VP3-SB4-SS	2-2.5-I		
Project AF Plant 42 IRP-	II	D	ate Collec	ted	2-5-86			
Client No.		D	ate Receiv	red	2-7-86			
Labo atory Supervisor Approv		۵	ate Analyz	ed	2-14-86			
		Q	C Report N	10.	8020-16			
Sample Matrix:								
/_/ Water (ug/L)		ם	dilution Fa	ictor	N/A	 _		
<u>/X</u> / Soil (ug/g)		*M	loisture					
/_/ Other								
Spike Source								
				<u> </u>		Γ		
		ncentratio			on Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzene	0.005	ND<0.005				<u> </u>		
Chlorobenzene	0.005	ND<0.005						
1,2-Dichloropenzene	0.005	ND<0.005						
1,3-Dichlorobenzene	0.005	ND<0.005						
1,4-Dichlorobenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	ND<0.005				ļ		
		ļ			ļ			
			İ			1		

ES Jou No. 56394		L	ab Sample	No	35803-4	DUP.	
Client		Field Sample No.			VP3-SB3-SS	10-30-ITC	
Project AF Plant 42 IRP-	<u> </u>	Date Collected			2-5-86		
Client No.		D	ate Receiv	ed	2-7-86		
Laboratory Supervisor Approv		0	ate Analyz	ed	2-18-86		
			C Report N				
Sample Matrix:							
/ / Water (ug/L)		0	ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		**	loisture			9	
// Other		· · · · · · · · · · · · · · · · · · ·					
Spike Source					<u> </u>		
	Co	ncentratio	'n	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2			Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichloropenzene	0.005	ND<0.005					
1,4-Dichlorobenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					

ES JOD NOE56394		L	ab Sample	NO	35803-5	SPIKE	
Client		F	ield Sampi	e No. <u>16-E</u>	VP3-SB3-SS	10-30-ITC	
Project AF Plant 42 IRP-	ΙΙ	Date Collected			2-5-86		
Client No.		0	ate Receiv	ed	2-7-86		
Laboratory Supervisor Approva		0	ate Analyz	ed	2-18-86		
		Q	C Report N	lo	8020-16		
Sample Matrix:							
// Water (ug/L)		מ	dilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		*M	loisture			ૠ	
// Other						 	
Spike Source							
	Co	ncentratio	ın	Retenti	on Time		
Compound		Column 1			Column 2	Notes	
Benzene	0.005	0.036		2.6			
Cnlorobenzene	0.005	0.042		8.0			
1,2-Dichloropenzene	0.005	0.044		14.6			
1,3-Dichlorobenzene	0.005	0.049		13.0			
1,4-Dichloropenzene	0.005	0.039		12.8			
Ethyl benzene	0.005	0.038		7.4			
Toluene	0.005	0.041		4.9			
Xylenes (Dimethyl benzene)	0.005	ND<0.005					



ANALYTICAL **SERVICES**



CERTIFICATE OF ANALYSIS

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Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006

October 8, 1986

Attn: M.A. Guthrie

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February 8, 1986

56394

35812/Pac

REVISED REPORT

Three (3) soil samples.

Sample Number	Date	Time	
5-AFTC-SB2-SS5-10-ITC	2-7-86	0900	
5-AFTC-SB2-SS10-30-ITC	2-7-86	0900	
5-AFTC-SB2-SS14-50-ITC	2-7-86	0900	

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

The samples were analyzed for total recoverable oil and grease by infrared spectroscopy technique (EPA Method 413.2, Extraction Procedure EPA Method 3550). The results are listed in Table 1.

It is noted that a number of samples covered in this report show substantial concentrations of dichloromethane. At the time these samples were being analyzed, other work being done in the lab involved the use of dichloromethane. We believe the dichloromethane concentrations reported for these samples represent lab air contamination and should not be considered as being part of the samples. Lab procedures have been changed to minimize dichloromethane contamination in the future.

Willem F. Fan

William P. Fassinger

Eric W. Lindsav

Laboratory Manager I

Richard & Mende

October 8, 1986 JN: 35812 - Page 2

Table I

Sample: AF Plant 42 IRP-II, ES Job No. 56394

Date of Analysis: 3-4-86

Total Recoverable Oil and Grease (ug/g)

5-AFTC-SB2-SS5-10-ITC	7960
5-AFTC-SB2-SS10-30-ITC	1400
5-AFTC-SB2-SS14-50-ITC	2
5-AFTC-SB2-SS14-50-ITC DUP.	2
5-AFTC-SB2-SS14-50-ITC SPIKE	22
Spike Concentration	17

Percent Recovery: 118%

Relative Percent Difference: 0.00%

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Engineering Science Page 3

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 5-AFTC-SB2-SS5-10-ITC	QC Report No	8010-16				
Duplicates <u>35812-11</u> , <u>35812-1</u> 2	Date Analyzed	2-12-86				
Spike <u>35812-13</u>	Laboratory Supervisor Approva					
Sample Matrix:						
/_/ Water (ug/L)	Dilution Factor _	N/A				
<u>/X</u> / Soil (ug/g)	*Moisture		%			
/_/ Other						
Spike Source						

		Du	plicat	es		Spike :	Recover	V	
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Benzyl chloride	Ν ^D δ ₁₀	ND δ10	ND δ10			<0.010		1	
Bis(2-Chloroethoxy)methane	^{Νρ} ό10	ND 610				<0.010			
Ris(2-chloroisopropyl)ether	ND ólo	ND 610	ND ólo			<0.010			
Bromobenzene	βP. 610	ND 610	ND δ10			<0.010			
Bromodichloromethane	β <u>0</u> δ10	ND 610	ND δ10		0.05	<0.010	0.05	100	
Bromoform	8º6to	8º610	₩º.610		0.05	<0.010	0.06	112	
Bromomethane	ND 610	<u>β.δ10</u>	ND δ10			<0.010			
Carbon tetrachloride	ND 510	ND 510	ND δ10		0.05	<0.010	0.04	80	
Chloroacetaldehyde	₩D. 610	ŊD 610	^{ΝD} δ10			<0.010			
Chloral	Ν ^D δ10	₩º 610	ტე _{გე}			<0.010			
Chlorobenzene	ND 610	₩º. δ10	₩ ^D δ10		0.05	<0.010	0.05	100	
Chloroethane	80610	₩D. 610	ზ ^ი გ10			<0.010			1
Chloroform	ND 610	ND 510	ND δ10		0.05	<0.010	0.05	100	
1-Chlorchexane	₩ ^D δ10	ND δ10	ND δ10			<0.010			
2–Chloroethyl vinyl ether	β <u>P</u> δ10	ND 610	ND 510			<0.010	-		
Chloromethane	β ^D δ10	₩ ^D б10	ND 610			<0.010			
Chloromethyl methyl ether	8 ^D δ10	ND 610	ND δ10			<0.010			
Chlorotoluene	β <u>0</u> δ10	ND 610	ტე _{ნ10}			<0.010			
Dibromoch ¹ oromethane	80.610	₩D.610	₩Dδ10		.175	<0.010	.160	91	

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

5-AFTC-SB2-SS5-10-ITC

		0	plicate			Snika D	ecovery		
Compouna	 Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<						
Dibromomethane	0.010		0.010						
1,2-Dichlorobenzene	θ ⁰ . σ́10		θ ^D δ10						
1,3-Dichloropenzene	0.610	0.610	θ ⁰ .δ10						
1,4-Dichlorobenzene	ð.δ10	8 ^{.0} 610	8 ^D 610						
Dichlorogifluoromethane	80.610	შ <u>ე</u> გე	ტ ^ი გეე						
1,1-Dichloroethane	θ ^D δ10	θ.δ10	შ ^ე გე		0.050	<0.010	0.048	96	
1,2-Dichloroethane	80.δ10	₩ ^D &1c	შ ^ი გე		0.050	<0.010	0.052	104	<u> </u>
1,1-Dichloroethylene	8 ² δ10	θ ^D δ10	₩D.б10		0.050	<0.010	0.052	103	
trans-1,2-gichloroethylene	80.δ10	80.δ10	₩º.610		0.050	<0.010	0.046	93	<u> </u>
Dichleromethane	80.610	0.030	0.030	0.0	0.050	0.030	0.070	80	<u> </u>
1,2-Dichioropropane	θ.δ ₁₀	θ ^D .δ10	80.610		0.070	<0.010	0.070	100	<u> </u>
1,3-Dichloropropylene	80.610	θ.δ10	მ ⁰ .გ10		0.175	<0.010	0.160	91	
1,1,2,2-Tetrachioroethane	θ ² δ10	0.018	0.014	0.25	0.100	0.018	0.097	79	
1,1,1,2-Tetrachioroethane	θ.δ10	ND δ10	θ ⁰ .δ10			<0.010			
Tetrachloroethylene	80.δ10	0.018	0.014	0.25	0.100	0.018	0.097	79	
1,1,1-Trichloroethane	8º. 610	8 ⁰ δ10	ND 610		0.05C	<0.010	0.042	85	
1,1,2-Trichloroethane	შ ^ე გე	ტეგ ₁₀	NDδ10		0.175	<0.010	0.160	91	<u>i</u>
Trichloroethylene	8º.610	θ ^D δ ₁₀	80.510		0.050	<0.010	0.046	92	
Trichlorofluoromethane	θ [.] δ10	0.610	₩Dδ10			<0.010			
Trichloropropane	₩ ^D δ10	θ ^D δ10	ND δ10			<0.010			
Vinyì chioriae	₩ ^C ó10	ზ ^ე გეი	θ ^D δ10			<0.010			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35812-9
Client	Field Sample No.	5-AFTC-SB2-SS14-50-ITC
Project AF Plant 42 IRP-II	Date Collected _	2-7-86
Client No.	Date Received	2-8-86
Laboratory Supervisor Approval:	Date Analyzed _	2-12-86
	QC Report No	8010-16
Sample Matrix:		
// Water (ug/L)	Dilution Factor	N/A
/X / Soil (ug/g)	*Moisture	ი ა
/_/ Other		
Spike Source	· · · · · · · · · · · · · · · · · · ·	

		Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010					
Bis(2-Chloroethoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010					
Bromomethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ทบ<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.G10					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010					
Dibromochloromethane	0.010	ND<0.010					

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

5-AFTC-SB2-SS14-50-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroetnane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dicnloropropane	0.010	ND<0.010	~			
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	C.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010	~			
Trichloropropane	0.010	ND<0.010				
Viny? chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35812-10
Client	Field Sample No.	5-AFTC-SB2-SS10-30-ITC
Project AF Plant 42 IRP-II	Date Collected _	2-7-86
Client No	Date Received	2-8-86
Laboratory Supervisor Approval:	Date Analyzed _	2-12-86
	QC Report No	8010-16
Sample Matrix:		
<u>/</u> / Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	<u> </u>
// Other		
Spike Source		

	C	oncentrati		Retenti	on Time	
Compound	Det Lim	Column 1	CoTumn 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

5-AFTC-SB2-SS10-30-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichioroethane	0.010	ND<0.010				<u> </u>
1,2-Dichioroethane	0.010	ND<0.010				
1.1-Dichioroethylene	0.010	ND<0.010				
trans-1,2-gichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.034				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichioropropylene	0.010	ND<0.010				<u> </u>
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				<u> </u>

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No.	35812-11
Client	Field Sample No. <u>5</u>	-AFTC-SB2-SS5-10-ITC
Project AF Plant 42 IRP-II	Date Collected	2-7-86
Client No.	Date Received	2-8-86
Laboratory Supervisor Approval:	Date Analyzed	2-12-86
	QC Report No	8010-1 6
Sample Matrix:		
// Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	<u></u>
// Other		
Spike Source		

	Concentration			Retenti	-	
Compound	Det Lim	Column 1	Column 2	Column 1		Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010		-		
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethame	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

5-AFTC-SB2-SS5-10-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifiuoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.030		6.1		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroetnane CE	0.010	0.018		21.5		
1,1,1,2-Tetrachloroethane	0.010	010.0>GM				
Tetrachloroethylene CE	0.010	0.018		21.5		· · · · · · · · · · · · · · · · · · ·
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichiorofiuoromethane	0.010	ND<0.010				
Trachionopropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

CE - Compounds co-elute. Amount reported is total.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35812-12
Client		5-AFTC-SB2-SS5-10-ITC DUF
Project AF Plant 42 IRP-II	Date Collected	2-7-86
Client No.	Date Received	2-8-86
Laboratory Supervisor Approval:	Date Analyzed _	2-12-85
	QC Report No.	8010-16
Sample Matrix:		
<pre>/_/ Water (ug/L)</pre>	Dilution Factor	N/A
<u>/X</u> / Scil (ug/g)	*Moisture	<u></u>
// Other		
Spike Sounce		

	C	oncentratio	on	Retentio	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

5-A. TC-SB2-SS5-10-ITC DUP

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	0.030		6.1		
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane CE	0.010	0.014		21.5		
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachlorcethylene CE	0.010	0.014		21.5		
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1.2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichlorophopane	0.010	ND<0.010				
Vinyl chloriae	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

CE - Compounds co-elute. Amount reported is total.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	35812-13
Client		5-AFTC-SB2-SS5-10-ITC SPIKE
Project AF Plant 42 IRP-II	Date Collected	2-7-86
Client No.	Date Received	2-8-86
Laboratory Supervisor Approval:	Date Analyzed	2-12-86
	QC Report No.	8010-16
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	%
// Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	0.050		13.9		
Bromoform	0.010	0.060		19.5		
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	0.040		13.5		
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	0.050		23.9		
Chloroethane	0.010	ND<0.010				
Chloreform	0.010	0.050		11.1		
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0,010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	0.160		16.7		

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

5-AFTC-SB2-SS5-10-ITC SPIKE

	Concentration			Retent		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				·
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichionoethane	0.010	0.048		9.9		
1,2-Dichloroethane	0.010	0.052		11.9		
1,1-Dichloroethylene	0.010	0.051		8.7		
trans-1,2-dichloroethylene	0.010	0.046		10.6		
Dichioromethane	0.010	0.070		6.1		
1,2-Dichloropropane	0.010	0.070		15.3		
1,3-Dichloropropylene	0.010	0.160		16.7		·
1,1,2,2-Tetrachioroethane	0.010	0.097		21.5		
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	0.097		21.5		·
1,1,1-Trichloroethane	0.010	0.042		13.1		···
1,1,2-Trichloroethane	0.010	0.160		16.7		· · · · · · · · · · · · · · · · · · ·
Trichloroethylene	0.010	0.046		16.0		
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				·
Vinyl chionide	C.010	ND<0.010				

ES Job No. <u>56394</u>		L	ab Sample	No. <u>3581</u>	2-1				
Client		F	ield Sampl	e No. <u>5-A</u>	FTC-SB2-SS	14-50-17			
Project <u>AF PLANT 42 IRP-II</u>									
Client No.									
Laboratory Supervisor Approva									
			C Report N						
Sample Matrix:									
/_/ Water (ug/L)		Dilution Factor N/A							
<u>/X</u> / Soil (ug/g)		*M	oisture						
/_/ Other									
Spike Source									
	·				 	;			
	Co	ncentratio	n	Retenti	on Time				
Compound			Column 2			Notes			
Benzene	0.005	ND<0.005							
Cnloropenzere	0.005	ND<0.005							
1,2-Dichloropenzene	0.005	ND<0.005							
1,3-Dichlorobenzene	0.005	ND<0.005							
1,4-Dichloropenzene	0.005	ND<0.005							
1,4 bic.i.o. obcinzens	0.005	1							
Ethyl penzene	0.005	ND<0.005							
Toluene	0.005	ND<0.005							
Xylenes (Dimetnyl penzene)	0.005	ND<0.005				<u> </u>			
	<u> </u>			<u> </u>					

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. <u>56394</u>		L	ab Sample	No. <u>3581</u>	2-1		
Client		F	Field Sample No. <u>5-AFTC-SB2-S</u>		FTC-SB2-SS	10-30-I	
Project AF PLANT 42 IRP-II		Date Collected 2-7-86			7-86		
Client No.							
Laboratory Supervisor Approve		D	ate Analyz	ed <u>2-2</u>	1-86		
	_	Q	C Report N	o. <u>802</u>	0-16		
Sample Matrix:							
<pre>// water (ug/L)</pre>		D	ilution Fa	ctor <u>1</u>	:100		
<u>/X</u> / Sofi (ug/g)		★ M	oisture				
/_/ Other							
Spike Source							
	Co	ncentratio	n	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.5	0.8		2.7			
Cnloropenzene	0.5	ND<0.5		8.0			
1,2-Dichloropenzene	0.5	ND<0.5		~			
1,3-Dichlorobenzene	0.5	ND<0.5					
1,4-Dichioropenzene	0.5	7.2		12.5			
Ethyl benzene	0.5	ND<0.5					
Toluens	0.5	ND<0.5					
Xylenes (Dimethyl benzene)	0.5	2.1		8.0			
				6.2			
				8.7			

ES Job No. 56394	Lab Sample No	35812-7
Client	Field Sample No.	5-AFTC-SB2-SS5-10-ITC
Project AF PLANT 42 IRP-II	Date Collected	2-7-86
Client No.	Date Received	2-8-86
Laboratory Supervisor Approval:	Date Analyzed	2-20-86
	QC Report No.	8020-16
Sample Matrix:		
<pre>// Water (ug/L)</pre>	Dilution Factor _	1:100
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Co	ncentratio	<u>n</u>	Retenti	on Time	اً
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.5	ND<0.5				
Chlorobenzene	0.5	2		7.9		
1,2-Dichloropenzene	0.5	ND<0.5				
1,3-Dichlorobenzene	0.5	ND<0.5				
1,4-Dichloropenzene	0.5	ND<0.5				
Ethyl benzene	0.5	3.2		7.1		
Toluene	0.5	0.5		4.9		
Xylenes (Dimethyl benzene)	0.5	ND<0.5				

 $^{{\}tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. Arcadia, CA 91006 October 8, 1986

Attn: Dennis R. Kasper

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February 12, 1986

56394

35847/rjc

REVISED REPORT

Four (4) samples:

Sample Name	<u>Date</u>	Time
4-VWT5-SB3-SS3-5-ITC 4-VWT5-SB3-SS8-20-ITC 4-VWT5-SB4-SS3-5-ITC 4-VWT5-SB4-SS8-20-ITC	2-10-86 2-10-86 2-10-86 2-10-86	1000 1000 1200 1200

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

In addition, the samples were extracted according to soluble CAM Title 22 and analyzed by AA and ICP. The results are listed in the following Metals summary sheets.

Also, the samples were analyzed for oil and grease by infrared spectroscopy technique (EPA procedure 413.2). The results are listed in Table I.

ジ William P. Fassinger

Chemist

Willem Fface

Eric W. Lindsay

Laboratory Manager I

Date of Analysis: 2/13/86

Table I

Sample	Oil & Grease (ug/g)
4-VWT5-SB3-SS3-5-ITC	3
4-VWT5-SB3-SS8-20-ITC	ND<2
4-VWT5-SB4-SS3-5-ITC	ND<2
4-VWT5-SB4-SS8-20-ITC	ND<2
4-VWT5-SB4-SS8-20-ITC Spike	20
4-VWT5-SB4-SS8-20-ITC Duplicate	ND<2
Spike Concentration	20

% Recovery: +91%

Relative % Difference: N/A

Engineering Science

ANALYTICAL RESULTS SUMMARY

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Metals

Page: 3 Report:

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1

S Job No. 56394						QC Rep Labora	OC Report No. 66700-4 Laboratory Supervisor App	OC Report No. 66700-4 Laboratory Supervisor Approval:	oval:
Project No. AF Plant 42 IRP-II	nt 42 IRP-11	S	Sample Matrix:	: X L			•	-	
lient No.		1	/ Water	(ug/L)		Diluti	Dilution Factor		
late Collected 2-10-86	-10-86 -12-86	<i>\(\)</i>	<pre>(/ Soil (</pre>	<pre>/x/ Soil (ug/ml) CAM extract / / Other</pre>	extract	* Moisture	iture		
Field Sample No.	Lab Sample No.	As	Ba	Cd	ű	BP.	. Hg	Se	. Vd
4-VWT5-SB3-SS3-	-	0 037	~	ND 03	MD/0	0 0 0 0 2	000	00 00 00 00 00 00 00 00 00 00 00 00 00	ND.03
4-VWT5-SB4-SS3-				20.00	00.00		200.0	200	0.0.0
21I-S	2	0.032	4.4	ND<0.03	ND<0.06	ND<0.2	0.002	ND<0.003	ND<0.03
4-VWT5-SB3-SS8-									
20-11C	3	0.035	4.6	ND<0.03	ND<0.06	ND<0.2	0.002	ND<0.003 ND<0.03	ND<0.03
4-VWT5-SB4-SS8-									
20-1TC	4a	ND<0.03	2.3	ND<0.03	ND<0.06 ND<0.2	ND<0.2	0.002	ND<0.003 ND<0.03	ND<0.03
						-			

Analytical Method

Date Analyzed

F=Flame AAS C=Cold Vapor AAS G=Graphit Furnace AAS H=Hydride Vapor AAS P=Inductively Coupled Plasma

2/18

2/20

2/18

2/18

2/18

2/18

 ^{* -} If % moisture is reported, results ** are presented on a dry-weight basis.

Engineering-Science

QUALITY CONTROL RESULTS SUMMARY

Page: 4 Report:

QC Report No. 66700-4 Laboratory Supervisor Approvai:

Metals

Dilution Factor *Moisture

Water (ug/L) Soil (ug/ml) Other // Water (ug/L) /½/ Soil (ug/ml) // Other Spike Source(s)______

Sample Matrix:

Metal Dup. Sp Arsenic 4b NA Barium 4b NA	Sp ike	Date Anal	** Anal.		J	Duplicates		Spik	Spiked Recovery	overy		
		יייייייייייייייייייייייייייייייייייייי	Method	Blank	5	C2	RPD	SA SR	SR	SSR	PR	Notes
4p		2-18-86	G	NA	ND<0.03 ND<0.03	ND<0.03	1					
	۷×	2-18-86	a	٧N	2.3	2.8	20					
Cadmium 4b	NA	2-18-86	Ь	NA	ND<0.03 ND<0.03	ND<0.03	1					
Chromium 4b	V.	2-18-86	d	NA	ND<0.06 ND<0.06	ND<0.06						
4b	NA	2-18-86	d	V.	ND<0.2	ND<0.2	-					
Mercury 4b	VN	2-18-86	ပ	NA	0.002	0.002	0					
Selenium 4b	NA	2-20-86	9	NA	ND<0.003 ND<0.003	ND<0.003	1					
4b	NA	2-18-86	ط	ΝA	ND<0.03	ND<0.03	1					
4b	NA	2-18-86	۵	AN		ND<0.03	ND<0.03 ND<0.03	ND<0.03	ND<0.03	ND<0.03	ND<0.03	ND<0.03

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		L	ab Sample	No. 3584	7-5	
Client			•		T5-5B4-SS3-	·5-ITC
Project AF Plant 42 IRP-II		D	ate Collec	ted <u>2-10</u>	-86	
Client No.		D	ate Receiv	ed <u>2-12</u>	-86	
Laboratory Supervisor Approva	1:		ate Analyz		-86	
		Q	C Report N	o. <u>8010</u>	-16	
Sample Matrix:		•				
/_/ Water (ug/L)			ilution Fa			9.
<u>/X</u> / Soil (ug/g) / _/ Other		^ M	oisture			[*]
Spike Source						
				·		
	C	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	- Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chioroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

4-VWT5-SB4-SS3-5-ITC

	Co	ncentratio	n	Retenti	on Time	
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	C.010	ND<0.010				
1,2-Dichlorcethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylere	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichlorophopane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachiphoethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichlordethylene	0.010	ND<0.010				
Trichlorofluorometrane	0.010	ND<0.010				
Trichloroprocane	0.010	ND<0.010				
Viny: chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

Lab Sample No. 35847-6

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ES Job No. 56394

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Client		F.	ield Sampl	e No. 4-VW	T5-SB4-SS8-	20-ITC
Project AF Plant 42 IRP-II				ted 2-10		
Client No.		Da	ate Receiv	ed 2-12	-86	
Laboratory Supervisor Approva	1:	Da	ate Analyz	ed <u>2-13</u>	-86	
	_	Q	C Report N	o. <u>8010</u>	-16	
Sample Matrix:						
<u>/</u> / Water (ug/L)		D.	ilution Fa	ctor		
<u>/X / Soil (ug/g)</u>		*Mo	oisture			
/_/ Other						
Spike Source			 			
Compound	Det Lim	Concentrati Column 1	,		ion Time	1
<u> </u>	 		Column 2	Column 1		Notes
Benzyl chloride	0.010	ND<0.010			 	<u> </u>
Bis(2-Chloroethoxy)methane	0.010	ND<0.010			 	
Bis(2-chloroisopropyl)ether	0.010	ND<0.010			<u> </u>	!
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				<u> </u>
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				<u> </u>
Chloromethane	0.010	ND<0.010				
chloromethyl methyl ether	0.010	ND<0.010			 	<u> </u>
Chlorotoluene	0.010	ND<0.010				

0.010 40<0.010 ---

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Dibromochloromethane

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

4-VWT5-SB4-SS8-20-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Disnioroetname	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichiorcethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				l]
1,1,2,2-Tetrachioroetnane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	0.010	ND<0.010			<u></u>	
Tetrachloroethylene	0.010	ND<0.010				<u> </u>
1,1,1-Trichloroetnane	0.010	ND<0.010				<u> </u>
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No. <u>35847-7</u>	
Client	Field Sample No. 4-VWT5-SB3-SS8-20-ITC	
Project AF Plant 42 IRP-II	Date Collected 2-10-86	
C'ient No.	Date Received 2-12-86	_
Laboratory Supervisor Approval:	Date Analyzed 2-13-86	
	QC Report No. 8010-16	
Sample Matrix:		
<pre>// Water (ug L)</pre>	Dilution Factor	
<u>'X</u> ' Sail (ug/g)	*Moisture	%
Other		
Spike Source		
		_

	C	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	- Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				_
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

4-VWT5-SB3-SS8-20-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1.1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetracrioroetnane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichlorgethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010		<u> </u>		
Trichleropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job Nc56394		L	ab Sample	No3584	17-8	
Client		F	ield Sampl	e No. 4-V	IT5-SB3-SS3-	-5-ITC
Project AF Plant 42 IRP-II	·)-86	
Client No.			ate Receiv			
Laboratory Supervisor Approva			ate Analyz			
			C Report N			
Sample Matrix:						
/_/ Water (ug/L)		D	ilution Fa	ctor		
<u>/X</u> Soil (ug g)						
/_/ Other						
Spike Source	- 					
	-					
		Concentrat	ion	Retent	ion Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes.
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010			<u></u>	
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				İ
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				

Chloroacetaldehyde 0.010 ND<0.010 Chlora1 0.010 ND<0.010 Chlorobenzene 0.010 ND<0.010 ------Chloroethane 0.010 ND<0.010 --------**bhloroform** 0.010 ND<0.010 ------1-Chlorohexane 0.010 ND<0.010 2-Chloroethyl vinyl ether 0.010 ND<0.010 ------Chloromethane 0.010 ND<0.010 ---Chloromethyl methyl ether 0.010 ND<0.010 ---

ND<0.010

ND<0.010

0.010

0.010

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Chicrotoluene

Dibromochloromethane

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

4-VWT5-SB3-SS3-5-ITC

i	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethanc	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichlomoethane	0.010	ND<0.010				
1,1-Dianlordetnylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				<u> </u>
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010	-			
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				Ì
Tetracnioroethylene	0.010	ND<0.010				<u> </u>
1,1,1-Trichlorcethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND<	
Sample Matrix:	
Dilution Factor NA	
ND< ND< ND< ND< ND< ND< ND< ND< ND< ND<	
ND< ND< ND< ND< ND< ND< ND< ND< ND< ND<	
Duplicates Spike Recovery	7
Duplicates Spike Recovery	
Duplicates Spike Recovery	
Compound Blank C1 C2 RPD SA SR SSR PR ND ND ND ND 0.005 <th></th>	
Compound Blank C1 C2 RPD SA SR SSR PR ND ND ND ND 0.005 <td></td>	
ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND<	
Benzene 0.005 0.005 0.005 0.052 <0.005 0.042 86 ND ND ND ND ND 0.005 <	Notes
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Chlorobenzene 0.005 0.005 0.005 0.055 <0.005 0.055 100 ND ND ND ND ND 0.005	
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1,2-Dichlorobenzene 0.005 0.005 0.005 0.053 <0.005	
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1,3-Dichlorobenzene 0.005 0.005 0.005 0.064 <0.005	
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1,4-Dichloropenzene 0.005 0.005 0.005 0.052 <0.005 0.052 100 ND ND ND ND ND 0.005 </td <td></td>	
ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND< ND<	
Etry ¹ benzene	
ND< ND< ND<	
Toluene 0.005 0.005 0.050 <0.005 0.030 60	
ND< ND<	
Xylenes (Dimethyl benzene) 0.005 0.005 0.005	

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		L	ab Sample	No	35847-1	
Client			ield Sampl			
Project AF Plant 42 IRP-I	I	٥	ate Collec	ted <u>2-10</u>	-86	
Client No.		D	ate Receiv	ed <u>2-12</u>	-86	
Laboratory Supervisor Approv		Ω	ate Analyz	ed 2-18	-86	
		Q	C Report N	o. <u>8020</u>	-17	
Sample Matrix:						
/ Water (ug/L)		Ω	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)			loisture			
/_/ Other	·					
Spike Source						
	Co	ncentratio	ın	Retenti	on Time	
Compouna			Column 2			Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
		1	ĺ		İ	

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Jop No56394		Ł	ab Sample	No	35847-2	
Client		F	ield Sampl	e No. 4-Vw	IT5-SB4-SS3	-5-ITC
Project <u>AF Plant 42 IRP-I</u>		C	ate Collec	ted <u>2-10</u>	-86	
Client No.		D	ate Receiv	ed <u>2-12</u>	-86	
Laboratory Supervisor Approva		0	ate Anaiyz	ed <u>2-18</u>	-86	
		Q	C Report N	0. 8020	1-17	
Sample Matrix:						
/_/ Water (ug/L)		0	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		×Ņ	loisture			٩٩
/_/ Otner						
Spike Source						
			<u> </u>	,		 ,
	(0	ncentratio	ND.	Patanti	on Time	
Compouna			Column 2			Notes
Benzene	0.005	ND<0.005				
Chiorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichiorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005		 		
Ethyl penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
7.13.10.103 (5.111.01.13.1.20.10.1	1	1	 	 		

 ${\sf ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Xylenes (Dimethyl benzene)

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ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		Ĺ	ab Sample	No	35847-3	
Client		F	ield Sampl	e No. 4-VW	T5-SB3-SS3	-5-ITC Du
Project AF Plant 42 IR		D	ate Collec	ted 2-10	-86	
Client No.		ס	ate Receiv	ed 2-12	-86	
Laboratory Supervisor App				ed 2-18		
, , , , , , , , , , , , , , , , , , , ,				o. 8020		
Sample Matrix:			,			
/_ / Water (ug/L)		0	ilution Fa	ictor	N/A	
/X / Soil (ug/g)						
/_/ Other						
Spike Source						
				, -		Τ
	Co	ncentratio	ın	Retenti	on Time	
Compound		Column 1	~ 		,	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Etny ¹ benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				

ND<0.005

0.005

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394			ab Sample				
Client			ield Sampl			-5-ITC	SFI
Project <u>AF Plant 42 IRP-I</u>			ate Collec				
Client No.			ate Receiv				
Laboratory Supervisor Approva	aì:	ם	ate Analyz	ed <u>2-18</u>	-86		
		Q	C Report N	o. <u>8020</u>	-17		
Sample Matrix:							
/_/ Water (ug/L)		D	dilution Fa	ctor	N:A		
<pre>/X / Soil (ug/g)</pre>		*M	loisture				₹
<u>/</u> / Other	·						
Spike Source							_
	1		· · · · · · · · · · · · · · · · · · ·	<u> </u>		·	7
	Co	ncentratio	on.	Retenti	on Time		1
Compound	Det Lim		Column 2	Column 1		Notes	1
Benzene	0.005	0.042		2.6			
Chloropenzene	0.005	0.055		8.0		İ	
1,2-Dichloropenzene	0.005	0.054		14.6] ! !
1,2 bichiolobenzene	0.003	0.004		14.0		i	7
1,3-Dichlorobenzene	0.005	0.062		13.0			!
1,4-Dichloropenzene	0.005	0.052		12.8			
Ethyl benzene	0.005	0.047		7.4			
Toluene	0.005	0.030		4.9			
Xylenes (Dimethyl benzene)	0.005	ND<0.005					
	1	T		1			7

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		L	ab Sample	No	35847-5	
Client		F	ield Sampl	e No. <u>4-VW</u>	T5-SB3-SS8	-20-ITC
Project AF Plant 42 IRP-II		D	ate Collec	ted <u>2-10</u>	-86	
Client No.	·_	D	ate Receiv	ed <u>2-12</u>	-86	
Laboratory Supervisor Approva	al:		ate Analyz			
		Q	C Report N	o. <u>8020</u>	-17	
Sample Matrix:						
<pre>/ / Water (ug/L)</pre>		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture	<u></u>		
/_/ Other					 	
Spike Source						
	1			<u>r</u>		1
· ·	Co	ncentratio	n	Retenti	on Time]
Compound		Column 1				Notes
' Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlonopenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimetry) penzene)		ND<0.005				
Ayrenes (binathy) bentenel	0.003	140.003				
				 	 	

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		L	ab Sample	No	35847-6	
Client		F	ield Sampl	e No. <u>4-VW</u>	T5-SB4-SS8	-20-ITC
Project AF Plant 42 IRP-I		D	ate Collec	tea <u>2-10</u>	-86	
Client No.			ate Receiv	ea 2-12	-86	
Laboratory Supervisor Approva			ate Analyz			
			C Report N			
Sample Matrix:						
/_/ Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	loisture			
// Other		<u> </u>		<u> </u>	····	
Spike Source						
	T				· · · · · · · · · · · · · · · · · · ·	· ·
	Co	ncentratio	on	Retenti	on Time	
Compouna			Column 2	• • • • • • • • • • • • • • • • • • • 	,	Notes
Benzene	0.005	ND<0.005				
Cnloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Etnyi benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.



ANALYTICAL SERVICES

a carrera e tropologico agrecionos

CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 October 8, 1986

Attn: Mark Guthrie

Page 1 of 16

February 13, 1986

56394

35863/rjc

REVISED REPORT

Ten (10) soil samples:

Sample Number	Date	<u>Time</u>
23-BD98-SB1-SS3-5-ITC	2-10-86	1600
23-BDD8-SB1-SS8-20-ITC	2-10-86	1600
7-ERA2-SB4-SS5-10-ITC	2-11-86	0840
7-ERA2-SB4-SS10-30-ITC	2-11-86	0840
7-ERA2-SB4-SS14-50-ITC	2-11-86	0840
15-TEB2-SB1-SS5-10-ITC	2-11-86	1515
15-TEB2-SB2-SS5-10-ITC	2-11-86	1615
15-TEB2-SB2-SS15-10-ITC	2-11-86	1615
14-EBA2-SB1-SS5-10-ITC	2-12-86	0830
14-EBA2-SB2-SS5-10-ITC	2-12-86	0945

The samples were analyzed for total petroleum hydrocarbons (TPH) by infrared spectroscopy technique (EPA procedure 418.1). The results are listed in Table I.

The samples were also extracted according to soluble CAM Title 22 and analyzed by AAS and ICP. The results are listed in the following Metals and Environmental Quality Parameters summary sheets.

In addition, the samples were analyzed for purgeable halocarbons using a Tekman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

Also, the samples were analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

William P. Fassinger

Chemist

Richard L. Merrell

Laboratory Director

<u>Table I</u>

Sample: AF Plant 42 IRP-II, ES Job No. 56394

Date of Analysis: 2-19-86

Total Petroleum Hydrocarbons (ug 'c)

7-ERA2-SB4-SS5-10'-ITC	ND<2
7-ERA2-SB4-SS10-30'-ITC	ND<2
7-ERA2-SB4-SS14-50'-ITC	ND<2
14-EBA2-SB1-SS5-10'-ITC	ND<2
14-EBA2-SB2-SS5-10'-ITC	ND<2
15-TEB2-SB1-SS5-10'-ITC	17
15-TEB2-SB2-SS5-10'-ITC	4350
15-TEB2-SB2-SS15-10'-ITC	2800
7-ERA2-SB4-SS5-10'-ITC Dup.	ND<2
7-ERA2-SB4-SS5-10'-ITC Spike	18
Spike Concentration	18

Percent Recovery: 100%

Relative Percent Differnece: N/A

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

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QUALITY CONTROL RESULTS SUMMARY Metals

Page: 3 Report:

Sample Matrix:

Water (ug/L) ×,

Soil (ug/ml)

/_/ Other Spike Source(s)_

Other .

Dilution Factor *Moisture

QC Report No. 66700-5 Laboratory Supervisor Approval:

Analyte	Laboratory	Laboratory Sample Nos.		** Anal.		C	uplicate	9.S	i	piked R	ecovery		
Metal	Duplicates	Spike	Date Anal.	Method	Blank		C1 C2 F	RPD	SA	SR SSR	SSR	PR	Notes
Arsenic	2	٧×	2/18	9	AN	0.030	0.031	ъ					
						>QN	>QN						
Cadmium	2	NA	2/18	d	AN	0.03	0.03	1					
Barium	2	۷ ۷	2/18	c.	< z		2.4	8					
	:				Ė	ND.	×Q×						
Chromium	2	٧N	2/18	ď	Ą		90.0	1 1		i			
							>QN						
Lead	2	NA	2/18	Ь	NA	1	0.19	-					
		Š	01,0		<u> </u>	000	900	9					
rici cui Y		54	6/ 10			200.0	NO. 0	5					
Selenium	,	Q.	2/18	<u>.</u>	Ą	0000	0 003	1					
						Ň	ND.						
Silver	2	AN	2/18	٩	A	0.03	0.03	1 1				,	
									i				
												1	
:						1	_		_	_		_	_

 $[\]star$ - If % moisture is reported, results $\star\star$ are presented on a dry-weight basis.

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ANALYTICAL RESULTS SUMMARY Metals

Page: 4 Report:

Laboratory Supervisor Approva 66700-5 Dilution Factor QC Report No. * Moisture Water (ug/l) Soil (119/ml) Sample Matrix: ()ther Project No.AF Plant 42 IRP-11 Client No. Date Collected 2-10-86 Date Received 2-13-86 56394 ES Job No. Client

Field Sample No.	Lab Sample No.	AS	po	Ra	ű	Ьр	Нд	Se	Ag	. i.
23-8008-581-553-5	-1	0.044	ND<0.03	3.2	ND<0.06	ND<0.06 ND<0.19 0.002	0.002	ND< 0.603	ND<0.03	
23-8008-581-558-20	2	0.030	ND<0.03	!	ND<0.06	ND<0.06 ND<0.19 0.003	0.003	ND<	ND<0.03	
			1							
Date Analyzed	Σ	2/18	2/18	2/18	2/18	2/18	2/19	2/18	2/18	
Analytical Method	**	ပ	Ь	ď	c	٩	ر ر	9	٥	

If % moisture is reported, results **
are presented on a dry-weight basis.

 $F \approx Flame\ AAS = C \approx Cold\ Vapor\ AAS = G \approx Graphit\ Furnace\ AAS$ H \approx Hydride Vapor\ AAS = P \approx Inductively Coupled Plasma

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Engineersig Solense Page 5

QUALITY CONTROL RESULTS CUMMARY Halogenated Volatile Organics SW Method 9010

uah Sample Nos. 23-8008-881-893-5-ITC	QC Report No	8010-17	
Juolicates 35360-10, 35863-11	Date Analyzed	2-13-86	
Stiffe35863-12	Laboratory Superv	dser Approval:	
Sample Michier			
Water (ug L)	Dilution Factor _	N/A	
<u>'Y</u> / Sofi (ug/g)	*Moisture		٠
Sther			
Stake Sumberg			

		Du	plicate	es		Spike	Recover	v į	
<u> </u>	Blank	<u>C:</u>	C2	b⊒Ω	SA	SR	5 5P	₽ ⊋	<u> </u>
Sund, i driinni re	NE . 010	0.010	₩5 ₆₁₀			<0.010			
Bos (1-Inlineation) menname	₩8.010	ეტეგებებებებებების	₩º816			<0.010			
Elsi2-ofionoisornopyllethen	<u> </u>	ეგე _ე	₩º.გეი			<0.010			
Encaphengere	№85 ₀₁₀	₩ე _{ნ10}	8º610			<0.010			
Shomodionlanewethane	%B<010	6 ⁰ δ10	8 ⁰ .810		0.050	<0.010	0.040	80	
<u>Secretion</u>	₹8.01d	მ ^ე გე	შ ^ე გე		0.050	<0.010	0.044	88	
Bromomyonane	№B:011	NDŲ:	ND8.0			<0.010			
Carbon tetnachlonige	₹B<010	ტე _{გე}	Ŋ₽ ₆₁₀		0.050	<0.010	0.039	78 l	
Chlorosoktaldeh, ze	₹6₹013	შ ^ი გე	ტეგენე			<0.010			
Qm2qms2	₩R<010	ND E10	₩₽810			<0.010			
Orlanopenzene	ĶΕ< ₀₁ α	BDK.	ND4-4		0.050	<0.010	0.046	ō.	
Orlandethade	ND < 010	N⊃6:0	۾ _ج ورو			<0.010			
Chloroform	NG < 010	₩º510	Nº61d		0.050	<0.010	0.044	80	
1-Chlonohevare	NB(010	N5610	원 ^D ć:d			<0.010			
<u>2-Chioncetry: yrny: ethen</u>	₹8< <u>01</u> 0	₩ ³ 616	₩º610			<0.010			
<u>Omionomethane</u>	NE < 010	₩º610	₿?б <u>1</u> d			<0.010			
Ohlonomethyl mathyl ethen	Nβ/010	Nº5610	₩Dốid			<0.010			
Qhlanctolyere	ND:010	Nº.δ10	₩ე. მე.			<0.010			
Dipromochiu omethane	NB<010	₩º619	₩5610	<u>-</u>	0.175	<0.010	0.164	a :	

continued on next page

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

23-BDD-SB1-SS3-5-ITC

		Du	nlicat	es		Spike R	ecovery		
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Dipromomethane	ND< 0.010	ND< 0.010	ND< 0.010			<0.010			
Dichlorodifluoromethane	θ.δ ₁₀	θ.δ10	θ.δ ₁₀			<0.010			İ
1,1-Dichloroethane	θ ⁰ .δ10	ND δ10	θ ⁰ .δ10		0.050	<0.010	0.042	84	
1,2-Dichloroethane	<u>80.610</u>	შ ^ი . გე	₩D.610		0.050	<0.010	0.044	89	
1,1-Dichloroethylene	<u>მ</u> ეგე	θ <u>.</u> δ10	₩ ^ე გ́10		0.050	<0.010	0.042	84	
trans-1,2-dichloroethylene	8 ^D δ10	θ.δ ₁₀	ŊD.δ10		0.050	<0.010	0.044	89	
Dichloromethane	⁸⁰ δ10	θ.δ ₁₀	₩ ^D δ10		0.050	<0.010	0.043	85	
1,2-Dichloropropane	ND 0.010	θ.δ ₁₀	θ.δ ₁₀		0.070	<0.010	0.064	91	
1,3-Disploropropylene	80.510	ND 0.610	0.610		0.175	<0.010	0.164	94	
1,1,2,2-Tetrachloroethane	θ ⁰ δ10	θ [.] δ10	θ.δ10		0.100	<0.010	0.087	87	
1,1,1,2-Tetrachloroethane	80.610	ND δ10	ND გენ			<0.010			
Tetrachloroethylene	80.δ10	ND δ10	80.610		0.100	<0.010	0.087	87	
1,1,1-Trichloroethane	ND δ10	θ.δ10	θ [.] δ10		0.050	<0.010	0.045	90	
1,1,2-Trichlorcethane	80δ ₁₀	θ.δ10	ND 0.δ10		0.175	<0.010	0.164	94	
Trichloroethylene	^{NO} δ10	ND δ.δ10	₩ ^D .610		0.050	<0.010	0.049	99	
Trichlorofluoromethane	θ.δ10	შ ^ე გ₁ი	θ ^D δ10			<0.010			
Trichloropropane	NC δ10	გე გე	8º510			<0.010			
Vinyl chloride	3°.610	0.000 € 10	θ ⁰ . ό10			<0.010			

 $[\]star$ - If $\mbox{\$}$ moisture is reported, results are presented on a dry-weight basis.

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		L	ab Sample	No	35863-9	
Client					3DD8-SB1-SS	-20-17
Project <u>AF Plant 42 IRP - II</u>		C	ate Collec	ted	2-10-86	
Client No.			ate Receiv	ed	2-13-86	
Laboratory Supervisor Approva	11:	Σ	ate Analyz	ed	2-13-86	
		Ç	C Report N	lo	8010-17	
Sample Matrix:						
// Water (ug/L)			ilution Fa	ictor	N/A	
<u>/X</u> / Soil (ug/g)		**	loisture _			
/_/ Other						
Spike Source						
						annes and
	с				on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	<u>শ্রংলভ</u>
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisoprcpyl)ether	0.010	ND<0.010			i i	
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010			<u> </u>	
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				_
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				

0.010 ND<0.010

0.010

0.010

0.010

0.010

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0.010

0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0 010

ND<0.010 ND<0.010 ---

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2-Chloroethyl vinyl ether

Chloromethyl methyl ether

Dibromochloromethane

Chlorobenzene

Chloroethane

1-Chlorohexane

Chloromethane

Chlorotoluene

Chloroform

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

23-BDD8-SB1-SS8-20-ITC

	Co	Concentration			on Time]
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				İ
1,1-Dichioroetname	0.010	ND<0.010				
1,2-Dichlordethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	C.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				<u> </u>
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichlorophopylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				<u> </u>
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroetnane	0.010	ND<0.010				<u> </u>
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichlorcethylene	0.010	ND<0.01C				<u> </u>
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	NO<0.010				
Vinyl chloride	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Jop No56394	Lab Sample No	35863-10
Client	Field Sample No.	23-BDD8-SB1-SS3-5-ITC
Project AF Plant 42 IRP - II	Date Collected	2-10-86
Client No.	Date Received	2-13-86
Laboratory Supervisor Approval:	Date Analyzed	2-13-86
	QC Report No	8010-17
Sample Matrix:		
// Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
// Other		
Spike Source		

0		Concentration		Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

23-BDD8-SB1-SS3-5-ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010				-	
1,1-Dichloroethane	0.010	ND<0.010					
1,2-Dichiorcethane	0.010	ND<0.010					
1,1-Dichioroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	ND<0.010					
1,2-Dichioropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachioroethane	0.010	ND<0.010					
1,1,1,2-Tetrachioroethane	C.010	ND<0.010					
Tetrachioroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichionoethylene	0.010	ND<0.01C					
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35863-11 DI	JP.
Client	Field Sample No.	23-BDD8-SB1-SS3-5-I	TC
Project AF Plant 42 IRP - II	Date Collected _	2-10-86	
Client No.	Date Received _	2-13-86	
Laboratory Supervisor Approval:	Date Analyzed	2-13-86	
	QC Report No	8010-17	
Sample Matrix:			
<pre>// Water (ug/L)</pre>	Dilution Factor _	N/A	
$\frac{X}{X}$ Soil (ug/g)	*Moisture	····	<u>\$</u>
/_/ Other			
Spike Source			

	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chlorai	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

23-BDD8-SB1-SS3-5-ITC DUFT.

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				<u> </u>
1,3-Dichloropropylene	0.010	ND<0.010				<u> </u>
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1.1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachloroetnylene	0.010	ND<0.010				
1,1,1-Trichloroetnane	0.010	ND<0.010				<u> </u>
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichlorcethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				<u> </u>

 ${\sf ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35863-1 2	SPIKE
Client	Field Sample No.	23-BDD8-SB1-SS3-	5-170
Project AF Plant 42 IRP - II	Date Collected	2-10-86	
Client No.	Date Received	2-13-86	·· <u>·</u>
Laboratory Supervisor Approval:	Date Analyzed	2-13-86	
	QC Report No	8010-17	
Sample Matrix:			
// Water (ug/L)	Dilution Factor _	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		<u> </u>
/_/ Other		· · · · · · · · · · · · · · · · · · ·	
Spike Source			

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	0.040		13.9		
Bromeform	0.010	0.044		19.5		
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	0.039		13.5		
Chloroacetaldehyde	0.010	ND<0.010				
Chlonal	0.010	ND<0.010				
Chlorobenzene	0.010	0.046		23.9		
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	0.044		11.1		
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chlu, omethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochleromethane	0.010	0.164		16.7		

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

23-BDD8-SB1-SS3-5-ITC SPIKE

	Co	Concentration			Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Dipromomethane	0.010	ND<0.010						
Dichlorodifluoromethane	0.010	ND<0.010				ļ		
1,1-Dichloroethane	0.010	0.042		9.9				
1,2-Dichioroethane	0.010	0.044		11.9		<u> </u>		
1,1-Dichloroethylene	0.010	0.042		8.7				
trans-1,2-dichioroethylene	0.010	0.044		10.6				
Dichloromethane	0.010	0.043		6.1				
1,2-Dichloropropane	0.010	0.064		15.3				
1,3-Bichloropropylene	0.010	0.164		16.7				
1,1,2,2-Tetrachloroethane	0.010	0.087		21.5				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010						
Tetrachloroethylene	0.010	0.087		21.5				
1,1,1-Trichloroethane	0.010	0.045		13.1				
1,1,2-Trichloroethane	0.010	0.164		16.7				
Trichloroethylene	0.010	0.049		16.0				
Trichlorofluoromethane	0.010	ND<0.010						
Trichlonopropane	0.010	ND<0.010						
Vinyl chloride	0.010	ND<0.010						

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394	L	ab Sample	No.	35863-4			
Client	Field Sample No. 23-BDD8-SB1-SS3-						
Project <u>AF Plant 42 IRP</u> -	Date Collected Date Received						
Client No.							
Laboratory Supervisor Appr				2-18-86			
		Q	C Report N	o	8020-17		
Sample Matrix:							
// Water (ug/L)			ilution Fa	ctor	N/A		
<u>/X</u> / Soii (ug/g)	*M	*Moisture					
<u>/</u> / Other							
Spike Source							
	· 						
	Co	Concentration			Retention Time		
Compound		Column 1				Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichlorobenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					

 \mbox{ND} - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ND<0.005

0.005

<u>Xylenes (Dimethyl benzene)</u>

ES Job No. 56394		Lab Sample No35863-5							
Client		Field Sample No. 23-BDD8-SB1-SS8-20-1							
Project AF Plant 42 IRP-II	Date Collected 2-10-86								
Client No.		Date Received 2-13-86							
Laporatory Supervisor Approval:		Date Analyzed 2-19-86							
•		QC Report No. 8020-17							
Sample Matrix:									
$^{\prime}$ / Water (ug/L)		Dilution Factor <u>N/A</u> *Moisture							
<u>/X</u> , Soil (ug/g)									
/ Other									
Spike Source									
	-			,		1			
; ;	Concentration			Retenti					
Compound	Det Lim			Column 1	Column 2	Notes			
Benzene	0.005	ND<0.005							
Chloropenzene	0.005	ND<0.005							
1,2-Dichloropenzene	0.005	ND<0.005							
1,3-Dichioropenzene	0.005	ND<0.005							
1.4-Dichloropenzene	0.005	ND<0.005							
Ethyl benzene	0.005	ND<0.005							
Toluene	0.005	ND<0.005							
10190110	3.003	145 (0.005			 				
Xylenes (Dimethyl benzene)	0.005	ND<0.005							
		 	· · · · · · · · · · · · · · · · · · ·		1				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ENGINEERING-SCIENCE

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ANALYTICAL SERVICES



Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006

October 8, 1986

Attn: Mark A. Guthrie

Page 1 of 17

February 5, 1986

56435

35878 njc

Four (4) soil samples:

Samples labeled	<u>Date</u>	Time
20-NLA2-SB1-SS3-5-ITC	2-12-86	11:00
20-NLA2-SB1-SS8-20-ITC	2-12-86	11:00
11-DAA2-SB1-SS5-10-ITC	2-12-86	15:30
11-DAA2-SB2-SS5-10-ITC	2-12-86	16:00

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sneets.

The samples were analyzed for total petroleum hydrocarbons (TPH) by infrared spectros copy technique (EPA procedure 418.1). The results are listed in Table I.

William F. 7

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director Engineering Spierce M.A. Guthore May 19, 1908 JN: 35878 - Fuge 1

Table I

Sample: AF Flant 42, IRF-II ES Job No. 56394 Date of analysis: 3-4-86

Oil and Grease

11-DAA2-881-885-10-170	ND<2
11-0AA2-SB2-S95-10-IT0	MD<2
20-NLA2-SB1-SS3-5-ITC	4
20-NLA2-SB1-SS8-20-ITC	ND<2
20-NLA2-981-998-20-ITC Dub.	ND<2
20-NLA2-SB1-SS8-20-ITC Spike	17
Spike Concentration	17

Pencent Peccyeny: 100%

Pelative Percent Difference: N/A

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35878-6
Client	Field Sample No.	20-NLA2-SB1-SS3-5-ITC
Project AF Plant 42 IRP-II	Date Collected	2-12-86
Client No.	Date Received	2-14-86
Laboratory Supervisor Approval:	Date Analyzed	2-14-86
	QC Report No	8010-17
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retent		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010			<u> </u>	
Bromodich1crcmethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				<u> </u>
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				İ
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010		<u> </u>		
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				i
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				1
Chlorotoluene	0.010	ND<0.010				!
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

20-NLA2-SB1-SS3-5-ITC

	Co	Concentration			on Time	
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Bronlondethylene	0.010	ND<0.010				ļ
trans-1,2-dichlorcethylene	0.010	ND<0.010				<u></u>
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichlorophopylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachionoethylene	0.010	ND<0.010				
1,1,1-Trichlordethane	0.010	ND<0.016				
1,1,2-Trichloroethane	0.010	ND<0.010				
Inschionoethylene	0.010	ND<0.010				
Trichlorofluchomethane	0.010	ND<0.010				
Intonionophopane	0.010	ND<0.010				
Vinyl colonies	0.010	ND<0.010				<u></u>

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No.	35878-3
Client	Field Sample No.	20-NLA2-SB1-SS8-20-ITC
Project AF Plant 42 IRP-II	Date Collected	2-12-86
Client No.	Date Received	2-14-86
Laboratory Supervisor Approval:	Date Analyzed	2-14-86
	QC Report No.	8010-17
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor _	N/A
$\frac{1}{X}$ / Soil (ug/g)	*Moisture	\$
/_/ Other		
Spike Source		

	Concentration		Retent	ion Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010		<u> </u>		
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chlcroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzen <i>e</i>	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethan <i>e</i>	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

20-NLA2-SB1-SS8-20-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluchomethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichioromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Inteniencfluoromethane	0.010	ND<0.010				
Trichlorophopare	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Engineering Science Page 7

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

	SI	W Method 80	010			
ES Job No56394		La	ab Sample	No3	5878-5	
Client		·F·	ield Sampl	e No. <u>11-</u>	DAA2-SB1-SS	5-10-ITC
Project <u>AF Plant 42 IRP-II</u>		Da	ate Collec	ted	2-12-86	
Client No.		· · - Da	ate Receiv	ed	2-14-86	
Laboratory <u>S</u> upervisor Approva	1:	Da	ate Analyz	ed <u></u>	2-14-86	
·	-	Q	C Report N	o	8010-17	
Sample Matrix:						
// Water (ug/L)	•	D.	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*Mo	oisture			*
Spike Source						
						
		Concentrati	ion	Retent	ion Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				<u> </u>
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				1
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				1
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

NO<0.010

ND<0.010

0.010

0.010

0.010

0.010

0.010

0.010

0.010

0.010

continued on next page

Chloroethane

1-Chlorohexane

Chloromethane

Chlorotoluene

2-Chloroethyl vinyl ether

Chloromethyl methyl ether

Dibromochloromethane

Chloroform

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

11-DAA2-SB1-SS5-10-ITC

	Co	ncentratio	n	Retent		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluorometrane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroetname	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrach snoethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Enichloroethylene	0.010	ND<0.010				
Inichlorofluoromethane	0.010	ND<0.010				
Trichlorophopane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Engineering Science Page 9

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	35878-4
Client	Field Sample No.	11-DAA2-SB2-SS5-10-ITC
Project AF Plant 42 IRP-II	Date Collected _	2-12-86
Client No.	Date Received	2-14-86
Laboratory Supervisor Approval:	- Date Analyzed	2-14-86
	QC Report No	8010-17
Sample Matrix:		
/ Water (ug/L)	Dilution Factor	N/A
/X / Soil (ug/g)	*Moisture	%
/_/ Other	· · ·	
Spike Source		

		Concentrat			ion Time	}
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
enzyl chloride	0.010	ND<0.010				<u> </u>
is(2-Chloroethoxy)methane	0.010	ND<0.010				
dis(2-chloroisopropyl)ether	0.010	ND<0.010				
romobenzene	0.010	ND<0.010				
romodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				1
Bromomethane	0.010	ND<0.010				1
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0,010	ND<0.010				
Chloromethane	0.010	ND<0.010				
hloromethyl methyl ether	0.010	ND<0.010				
Chloratoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

continued on next page

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

11-DAA2-SB2-SS5-10-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1.2-Dichloroethane	0.010	ND<0.010				<u> </u>
1.1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				<u> </u>
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroetnane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				ļ
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichleropropane	0.016	ND<0.010				
Vinyl onloride	0.010	ND<0.010				

 ${\tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

Lap Sample Nos.	20-NLA2-SB1-	SS8-20-	ITC	Q	QC Report No. <u>8020-18</u>					
Duplicates 35	878-8, 35878-9)		D	ate Ana	lyzed	2-24-	86		
Spike 85	L	aborato	ry Sup	erviso	r Appro	val:				
Sample Matrix:				_						
/_/ Water (u	ıg/L)			D	ilution	Facto	r	N/A		
/X / Soil (u		*M	oisture					<u> </u>		
Other										
Spike Source										
	· · · · · · · · · · · · · · · · · · ·	Ţ								
1		ļ	Du	plicat	es	s	pike R	ecovery		
Compou	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes	
	· · ·	>GM	>CN	ND<			ND<			
Benzene	0.005	0.005	0.005		0.052	0.005	0.051	98		
İ		ND<	ND<	ND<			ND<			
Chloropenzene		0.005		0.005		0.050		0.057	114	<u> </u>
		ND<	ND<	ND<			ND<			
1,2-Dichlorope	nzene	0.005		0.005		0.052		0.054	104	
		ND<	ND<	ND<			ND<	į	1	
1,3-Dichlorobe	nzene	0.005		0.005		0.055		0.066	120	-
		ND<	ND<	ND<			ND<		1	
1,4-Dichlorope	nzene		0.005			0.052		0.054	104	
1_		ND<	ND<	ND<		0.004	ND<	0.055	1	
Etnyl penzene	+	0.005			0.054		0.055	86		
7.7		ND<	ND<	ND<		0.050	ND<	0.054	100	
Toluene		ND<	0.005 ND<			0.053	0.005 ND<	0.054	102	
 Xylenes (Dimet	hul hanzans)	0.005					0.005	<u> </u>		
VALENCE TO THE	Tyl benzene)	10.005	0.003	0.005			0.000			
		<u> </u>								

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		L	ab Sample	No	35878-5	
Client		F	ield Sampl	e No. 20-	NLA2-SB1-S	<u> 53-5-170</u>
Project AF Plant 42 IRP-II		D	ate Collec	ted 2-1	2-86	
Client No.		D	ate Receiv	ed 2-1	4-86	
Laponatory Supervisor Approva			ate Analyz			
, ,		Q	C Report N	o. 802	0-18	
Sample Matrix:						
// Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture			
Spike Source						
					· · · · · · · · · · · · · · · · · · ·	 _
l	Co	ncentratio	n	Retenti	on Time	
Compouna			, 		Column 2	Notes
Benzene	0.005	ND<0.005				
Cnicropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Etnyl penzene	0.005	ND<0.005				
To`uene	0.005	ND<0.005				1
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
						1

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		L	ap Sample	No	35878-8	
Client		F	ield Sampl	e No. 20-	NLA2-SB1-S	S8-20-11
Project <u>AF Plant 42 IRP-II</u>		D	ate Collec	ted <u>2-1</u>	2-86	
Client No.		Ď	ate Receiv	ed <u>2-1</u>	4-86	
Laboratory Supervisor Approve		0	ate Analyz	ed <u>2-2</u>	4-86	
		Q	C Report N	o. <u>802</u>	0-18	
Sample Matrix:						
/_/ Water (ug/L)		0	ilution Fa	ctor	N/A	·
<u>/X /</u> Soil (ug/g)		*P	loisture			
// Other						
Spike Source			 			
	Co	ncentratio	n	Retenti	on Time	
Compound			Column 2		Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				<u> </u>
1,3-Dichloropenzene	0.005	ND<0.005				-
1,4-Dichlorobenzene	0.005	ND<0.005		~		
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
 Xylenes (Dimethyl benzene)	0.005	ND<0.005				
		1				
					İ	

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		L	ab Sample	No	35878-9	טם
Cinent		Field Sample No. 20-NLA2-SB1-SS8-20				
Project AF Plant 42 IRP-II			ate Collec			
Client No.			ate Receiv			
Laboratory Supervisor Approve		D	ate Analyz	ed <u>2-2</u>	24-86	
		Q	C Report N	o. <u>802</u>	20-18	
Sample Matrix:						
// Water (ug/L)		D	ilution Fa	ctor	N/A	
<pre>¿X_/ Soil (ug/g)</pre>		*M	oisture			
// Other						
Spike Source			· · · · · · · · · · · · · · · · · · ·			
	· · · · · · · · · · · · · · · · · · ·					γ
	Co	ncentratio	n	Retent	ion Time	
Compound		Column 1			Column 2	Notes
 Berzene	0.005	ND<0.005				
· Chloropenzene	0.005	ND<0.005				
CITIOT OBERIZERS	0.003	10.0.003			 	
1,2-Dichloropenzene	0.005	ND<0.005				<u> </u>
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzone	0.005	ND<0.005				<u> </u>
Toluene	0.005	ND<0.005				
	0.005	ND<0.005				
Xylenes (Dimetry) benzene)	0.005	40 CO. UES			1	
	 					
	1	ļ		-	 	ļ

ND - This compound was not detected, the limit of detection for this analysis is less than the amount stated in the table above.

ES JOD NO56394		L	ab Sample	NO	35878-10	SK
Client		F	ield Sampi	e No. 20-	NLA2-SB1-S	S8-20-I
Project <u>AF Plant 42 IRP-II</u>		D	ate Collec	tea <u>2-1</u>	2-86	
Client No.		Date Received 2-14-86				
Laboratory Supervisor Approv		ם	ate Analyz	red <u>2-2</u>	4-86	
		Q	C Report N	10. 802	0-18	
Samble Matrix:						
<pre>/ Water (ug/L)</pre>		D	ilution Fa	ator	N/A	
<pre>/X / Soil (ug/g)</pre>		×M	oisture _		- -	
/ / Other						
Spike Source						
				<u> </u>		
:	Co	ncentratio	n	Retenti	on Time	
Compound		Column 1		Column 1	Column 2	Notes
Benzene	0.005	0.051		2.6		
<u> Cnjoropenzene</u>	0.005	0.057		8.0		
1.2-Dichloropenzene	0.005	0.054		14.6		
1,3-Dichloropenzene	0.005	0.066		13.0		<u> </u>
i,4-3rchloropenzene	0.005	0.054		12.8		
Etnyl penzené	0.005	0.055		7.4		
Toluene	0.005	0.054		4.9		
<u> Xylenes (Ormethyl benzene)</u>	C.005	ND<0.005				!
						!

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ES Job No. 56394		Ļ	ap Sample	No	35878-7	
Client		F	ield Sampl	e No. <u>11-</u>	DAA2-SB1-S	S5-10-ITC
Project <u>AF Plant 42 IRP-II</u>			ate Collec	ted <u>2-1</u>	2-86	
Client No.			ate Receiv	ea <u>2-1</u>	4-86	
Laboratory Supervisor Approv		٥	ate Analyz	ea <u>2-2</u>	4-86	
		Ç	C Report N	o. <u>802</u>	0-18	
Sample Matrix:						
<pre> / Water (ug/L) </pre>		ם	dilution Fa	ctor	N/A	
<u>·X</u> / Sor∃ (ug/g)		**	loisture _			
// Other				···-		
Spike Source				·		
!	1					
1			tion Retention Time 1 Column 2 Column 1 Column 2			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chiorogenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Etnyl penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimetryl benzene)	0.005	ND<0.005				
1	1		1			
	·	1	 	!		

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ap Sample	No	<u>35878-6</u>	
Client		F	ield Sampi	e No. <u>11-</u>	DAA2-SB2-S	\$5-16-1
Project <u>AF Plant 42 IRP-II</u>		0	ate Collec	ted <u>2-1</u>	2-86	
Client No.		۵	ate Receiv	ea <u>2-1</u>	4-86	
Laboratory Supervisor Approva		D	ate Analyz	ea <u>2-2</u>	4-86	
		Q	C Report N	o. <u>802</u>	0-18	
Sample Matrix:						
<pre>/ water (ug, L)</pre>		D	lilution Fa	ctor	N 4	
¿¥_ ← Scil (ug,g)		×M	loisture			
/ Other		_				
Spike Source			·			
	T					,
1 1	Co	ncentratio	n	Retenti	on Time	t .
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Occhloropenzene	0.005	ND<0.005				!
: 	0.005	ND<0.005				; }
[1,4-Dicricropenzene	0.005	ND<0.005		<u> </u>		• · · · · · · · · · · · · · · · · · · ·
Etnyl benzene	0.005	ND<0.005	† 			; • · · · ·
itoluere	0.005	ND<0.005				!
Xylenes (Dimetry) renzene)	0.005	ND<0.005				<u>.</u>
·		!			i !	
	!		ļ			:
•					<u> </u>	i

ND - This culpound was not detected; the limit of detection for this analysis is less tran the amount stated in the table above.



ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Engineering Science 125 W. Huntington Dr. P.O.Box 538 Arcadia, CA 91006 May 31, 1986

Attn: Mark Guthrie

March 20, 1986

56394

36257/rjc

Two (2) soil samples labeled: "23-BDD8-SB1-SS3-5-ITC" and "23-BDD8-SB1-SS8-20-ITC".

The samples were extracted according to soluble CAM Title 22 and analyzed by Inductively Coupled Plasma. The results are listed in the following metals summary sheets.

Byron Thomas
Group Leader

Steve Jones, Ph.D. Technical Director

Engineering-Science

ANALYTICAL RESULTS SUMMARY Metals

Page: 2 Report:

ES Job No. 56394

Client
Project No. AF Plant 42 11P-II Sample Matrix:
Client No. // Water (ug/Date Collected 2-10-86 /X/ Soil (ug/n Date Received 2-13-86 // Other

le Matrix: Water (ug/L) Soil (ug/ml)

QC Report No. _____66700-12 Laboratory Supervisor Approval:

Dilution Factor * Moisture

Field Sample No.	Sample No. Lab Sample No. Iron	Iron	Copper	Mananes	e Zinc	Iron Copper Mananese Zinc		1 · · · · · · · · · · · · · · · · · · ·
23-BDD8-SB1-SS3- 5-ITC		23	0.31	14	0.41			
23-8006-S81-SS8- 20-ITC	3	22	-	9.7	0.35			
		1				*		
								-
Date Analyzed	Σ	5/29	5/29	5/29	67/5			
Analytical Method	*	٩	ρ	م	۵			

^{* -} If % moisture is reported, results ** are presented on a dry-weight basis.

F = Flame AAS C = Cold Vapor AAS G = Graphit Furnace AAS H = Hydride Vapor AAS P = Inductively Coupled Plasma

Engineering-Science

QUALITY CONTROL RESULTS SUMMARY

1

Metals

Page: 3 Report:

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Laboratory Supervisor Approval:

66700-12

QC Report No.

Sample Matrix:

Water (ug/L)) X

Dilution Factor *Moisture

// Other Spike Source(s) Commercial standards Soil (ug/ml)

Notes					ENTERNATIONAL TECHNOLOGY CORFU
PR	70	98	75		
SSR	26.5	5.22	15.5		
Spiked Recovery	23	31		0.41	
SA	5ug/m1 23	5ug/ml 0.31	5ug/m] 14	[m/bng	
RPD	4	က	9	5	
Ouplicates C1 C2 RPD	26	5.14	15	5.4	asis.
2 13	27	30		5.70	eight ba
Blank	V/N				a dry-w
** Anal. Method	۵	Ф	Ч	۵	presented on a dry-weight basis.
Date Anal.	5 5/29	5 5/29	: 5/29	5 5/29	ane
	23-8008- SB1-SS3-5-1TC	23-8008- SB1-SS3-5-IIC 5/29	23-8008- SB1-553-5-ITC 5/29	23-8008- SB1-SS3-5-ITC 5/29	If % moisture is reported, results **
Laboratory Sample Nos. Duplicates Spike	~	2	5	2	ture is repor
Analyte Metal	Iron	Copper	Manganese	Zinc	* - If % mois

^{* -} If % moisture is reported, results ** are presented on a dry-weight basis.

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ANALYTICAL SERVICES



Engineering Science 57 Executive Park So. Suite 590 Atlanta, GA 30329-2213 October 8, 1986

Attn: M.A. Guthrie

Page 1 of 32

April 10, 1986

56394

3650€/njc

REVISED REPORT

Six (6) soil samples:

Sample Number	_Date	Time
23-BDD8-SB2-SS3-5-ITC	4-8-86	15:30
23-BDD8-SB2-SS8-20-ITC	4-8-86	15:30
1-FCD2-SB1-SS5-10-ITC	4-9-86	09:30
1-FCD2-SB1-SS10-30-ITC	4-9-86	09:30
1-FCD2-SB1-SS14-50-ITC	4-9-86	09:30
1-FCD2-SB1-SS15-30-ITC	4-9-86	09:30

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

In addition, the samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

The four samples with prefix "1-FCD2-SB1" were extracted by EPA Method 3550 and analyzed for Total Petroleum Hydrocarbons according to EPA Method 418.1. The results are listed in Table I, and the Quality Control data is listed in Table II.

The two samples with prefix "23-BDD8-SB2" were extracted by EPA Method 3550 and analyzed for Total Oil and Grease by EPA Method 413.2. The results are listed in Table III, and the Quality Control data is listed in Table IV.

The two samples were also extracted according to Title 22 66700 and analyzed by AAS and ICP.

William P. Fassinger

Chemist

Eric W. Lindsay

Laboratory Manager I

Table I

Total Petroleum Hydrocarpons*

Sample Identification	Micrograms/gram
1-FCD2-SB1-SS5-10-ITC	ND<2
1-FCD2-SB1-SS10-30-ITC	ND<2
1-FCD2-S81-SS14-50-ITC	ND<2
1-FCD2-SB1-SS15-30-ITC	ND<2
Method plank	ND<2

* - Date Analyzed - April 12, 1986.

Taple II

Quality Control Data

Total Petroleum Hydrocarbons*

Sample Identification	Micrograms/gram
1-FCD2-SB1-SS15-30-ITC	ND<2
1-FCD2-SB1-SS15-30-ITC Dup.	ND<2
Relative Percent Difference - NA	
1-FCD2-SB1-SS15-30-ITC - Spike	22.0
Spike Standard	25.9
Percent Recovery - 85%	
ate Analyzed - April 12, 1986	
 	

Table III

Total Oil and Grease*

Sample Identification	Micrograms/gram
23-BDD8-SB2-SS3-5-ITC	ND<2
23-BDD8-SB2-SS8-20-ITC	ND<2

- - Date Analyzed - April 12, 1986

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Tapie IV

Quality Control Data

Date Analyzed: April 12, 1986

Total Oil and Grease

Sampled Identification 23-BDD8-SB2-SS3-5-ITC 23-BDD8-SB2-SS3-5-ITC - Dup. Relative Percent Difference - NA 23-BDD8-SB2-SS3-5-ITC - Spike Spike Standard Percent Recovery - 108% Micrograms/gram ND<2 27.6 25.6

NA - Not Applicable

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

Engineering-Science

ANALYTICAL RESULTS SUMMARY Metals

Page: 4 Report:

Project No. AF Plant 42 IRP-II Date Collected 4-8-86 Date Received 4-9-86 56394 ES Job No. Client No. Client

Water (ug/L) Soil (mg/t) Sample Matrix: (X)

0ther

Laboratory Supervisor Approval: QC Report No. ____66700-8 Dilution Factor

* Moisture

Zn	0.17	0.19	4/15 P
E S	8.8	8.1	4/15 P
Cu	0.08	ND < 0.07	4/15 P
Б		10	4/15 P
Ag	ND < 0.03	0.03 0.03	4/15 p
Se	ND< 0.0025	0.0025 0.03	4/15
Hg	0.012	0.012	4/24 C
Pb	ND<	0.19	4/15 P
Cr	ND< 0.05	90.0 90.0	4/15 P
ρɔ	ND< 0.03	0.03	4/15 P
Ва	2.7	2.6	4/15 P
ΑS		0.03 0.03	4/15
Lab Sample No.	36506-1	36506-2	Ω **
Field Sample No.		23-8008-SB2-SS3- 5-IIC	Date Analyzed Analytical Method

If % moisture is reported, results ** are presented on a dry-weight basis.

Engineering-Science

QUALITY CONTROL RESULTS SUMMARY Metals

Page: 5 Report:

/x/

QC Report No. 66700-8 Laboratory Supervisor Approval: Dilution Factor *Moisture Sample Matrix: /_/ Water (ug/L) Soil (mg/l) Spike Source(s) 0ther

	Laboratory	Laboratory Sample Mos.		xx Anal.		ā	Duplicates	tes	S	piked	Spiked Recovery		
Metal	Duplicates	Spike	Date Anal.	Method	8 lank	C1	C2	RPD	SA	S.E	SSK	a N	Notes
· • •						ÝQN	>QN						
Arsenic	36506-20	NA	4-15	9		0.03	0.03		AN	Ą	VV V	AN	
Barium	36506-20	MA	4-15	۵		2.6	4.6	56	ΑN	Ą	٧×	Ϋ́	
Cadmium	36506-20	VN	4-15	۵.		ND< 0.03	ND<	t 1	Z Z	S A	Ą	A N	
Chromium	36506-20	NA NA	4-15	a		ND< 0.06	ND< 0.06		ν V	NA	A N	νV	
Lead	36506-20	Ą	4-15	Ф		ND<	0.21		NA	Υ Z	NA	AN	
Mercury	36506-20	۸N	4-23	ပ		0.012	0.012 0.009	29	Ϋ́	٧×	NA	۷Z	
Selenium	36506-20	Ā	4-15	g		ND< 0.005	ND< 0.005	1	۸۸	Z Q	ΑN	NA	
Silver	36506-20	Ā	4-15	c.		ND<	0.19	!	AN	۲	V V	AN	1
Iron	36506-20	۷N	4-15	d		10	10	0	ΑX	A N	ΑN	AN	
Copper	36506-20	NA	4-15	Ь		ND< 0.07	ND< 0.07	! 1	Ą	4	۷ 2	٧٧	
Manganese	36506-20	NA	4-15	۵		8.1	8.1	0	۷ ۷	۷ ۲	<u>۷</u>	AN	
Zinc	36506-20	NA	4-15	a		0.19	0.19	0	NA	۷ ۷	NA	Ą	

^{* -} If % moisture is reported, results ** are presented on a dry-weight basis.

Engineering Science Page 6

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB1-SS10-30-ITC	
Lab Sample Nos.	QC Report No. 8010-21
Duplicates 36506-9, 36506-10	Date Analyzed <u>4-14-86</u>
Spike 36506-11	Laboratory Supervisor Approval:
Sample Matrix:	
<pre>// Water (ug/L)</pre>	Dilution Factor N/A
<u>/X</u> ′ Sofl (ug, g)	*Moisture
/_/ Other	
Spike Source	

		Du	plicat	es		Spike	Recover	v	
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Benzyl chloride	ND< 0.010	ND<	ND< 0.010			ND< 0.010			
Bis(2-Chlorcethoxy)methane	80510		0.51c			80.610			
Bis(2-Chloroisopropyl)ether	ŊD. 0.010	,	₩D.ó1c			ND 610			
Bromobenzene	Ŋ₽. 0.010		₩D.ð10			₩º. 610			
Bromodichleremethane	₩₽.610	∂0.610	₩D610		0.050	θ ⁰ .δ1c	0.050	100	
Bromeform	80510		₩Dáic		0.050	₩ ⁰ .610	0.047	94	
Bromomethane	016.0	8061c	₩იგეი			ტეგენ 10			
Carbon tetrachloride	80. 610		₩₽.61c		0.050		0.040	80	
Chloroacetaldehyde	შეგე	₩D 8.810	ND 0.ó1c			80.610			
Chloral	₩ ⁰ 610	β ^D δ10	₩D.610			₩ ^D δ1c			
Chlorobenzere	β <mark>0</mark> 610	₩ ^D δ10	₩D.610		0.050	₩D. 510	0.040	80	
Chloroethane	₩º. 810	ND δ10	ND δ10			ND 610			
Chloroform	₿ ^D . б10	[№] 510	₿₽. მე		0.050	შ ^ი . გე	0.048	96	
1-Chlorohexane	წენ10		₩ ^D .610			₩D.61c			
2-Chloroethyl vinyl ether	80.610		NDδ10			გე _ნ ენ			
Chloromethane	ND δ10	ND δ10	80610			0.612			
Chloromethyl methyl ether	₿ ⁰ .610		<u> </u>			ŊD.610			
Chlorotoluene	<u> β.δ10</u>		შეგენ შენენ			ND 510			
Dibromochloromethane	80.510	θ <u>.</u> δ10	შ ^ე ნენენ		0.155	₩º.δ1c	0.146	94	

continued on next page

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB1-SS10-30-ITC

المرازات المحمد العالية والمستمال المستم المستمال المستمال المستم المستمال المستمال المستمال المستمال المستمال المستمال المستمال	, 	المساملا المعا			4	1-F	CD2-581-	-2210-	3U~ : '
<u> </u>		. Du	<u>plicate</u>	es		Spike R	ecovery		
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Dipromomethane	ND< 0.010	ND< 0.010	ND< 0.010			<0.010			
Dichlorodifluoromethane	ND δ10	ND δ10	θ ^D .δ10			<0.010			
1,1-Dichloroethane	80810	80610			0.050	<0.010	0.050	100	ļ
1,2-Dichlordethane	წ ^ე გ10	90510			0.050	<0.010	0.054	106	<u></u>
1,1-Dichlordethylene	θ-610	θ ^D δ10	ტ ^ე გე		0.050	<0.010	0.025	50	
trans-1,2-dichloroethylene	80.610	θ ^D δ10	θ ^D δ10		0.045	<0.010	0.045	100	İ
Dichloromethane	0.610	ND δ10	₩D.б10		0.050	<0.010	0.041	82	
1,2-Dichloropropane	8º. 610	θ [.] ό10	θ ^D .δ10		0.050	<0.010	0.026	52	
1,3-Dichioropropylene	80.610	80.δ10	θ.δ ₁₀		0.155	<0.010	0.146	94	
1,1,2,2-Tetrachicroethane	80.610	80δ10	₩D. δ10		0.100	<0.010	0.095	95	
1,1,1,2-Tetrachloroethane	8º610	0.610	8º. ó10			<0.010			
Tetrachioroethylene	8º610	θ. δ ₁₀	θ ^D δ10		0.100	<0.010	0.095	95	
1,1,1-Trichloroethane	80. 6. 610	θ. δ. δ10	ND δ10		0.050	<0.010	0.045	90	İ
1,1,2-Trichloroethane	8.610	შ ^ე გი	₩ ^D . б10		0.155	<0.010	0.146	94	
Trichloroethylene	8 ^D .610	ზ ^ი გე	₩ ^D б10		0.050	<0.010	0.042	84	
Tricriorofiuoromethane	θ ⁰ δ10	შ ^ი გე	θ ⁰ δ10			<0.010			
Trichicropropane	θ <u>.</u> δ10	θ.δ10	₩ ^D δ10			<0.010			
Vanyl chloride	80.610	80. 810	Ŋ ^D .δ10			<0.010			ļ

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

	5-4
Client Field Sample No. <u>1-FCD2</u>	2-SB1-SS14-50-ITC
Project AF Plant 42 Date Collected 4-9-86	S
Client No Date Received 4-10-8	86
Laboratory Supervisor Approval: Date Analyzed 4-14-8	6
QC Report No8010-2	21
Sample Matrix:	
\angle / Water (ug. L) Dilution Factor N/A	\
<u>/X /</u> Scil (ug/g)	<u> </u>
/ Other	
Spike Source	

	C	oncentrati	on	Retenti	on Time	
Compourd	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010	<u> </u>			
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carpon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				ļ
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	HD<0.010				

Continued

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

<u></u>	·			1-	FCD2-SB1-SS	<u> 14-50-17</u>
	Co	ncentratio	<u>n</u>	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Cipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010			l i	
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichlondethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichlonopropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2~Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-TetrachToroethane	0.010	ND<0.010				
Tetracrioncetnylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trachloroethane	0.010	ND<0.010				
Trichloroethylene	C.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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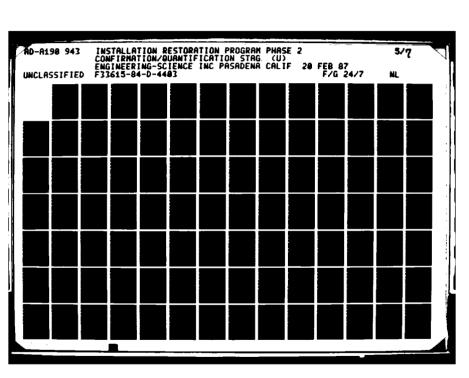
ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

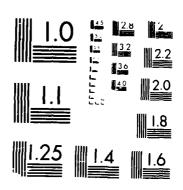
ES Job No. <u>56394</u>		Ĺ	ab Sample	No. <u>365</u>	06-5	
Client		F	ield Sampl	e Nc. <u>1-FC</u>	D2-SB1-SSE-	10-ITC
Project <u>AF Plant 42</u>		D	ate Collec	ted4-0	9-86	
Client No.		0	ate Receiv	ed <u>4-1</u>	.0-86	~ -
Laboratiny Supervisor Approva	ı ' :	D	ate Analyz	ed <u>4-1</u>	4-86	
		Q	C Report N	lo. <u>801</u>	.0-21	
Sample Mathix:						
<pre>/ Water (ug/L)</pre>			ilution Fa			
<u>_v_</u> (\$557		*M	oisture	N/A		
Spike Source						
	C	oncentrati	on	Retent	ion Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				_
Bis(2-Chlorcethoxy)methane	0.010	ND<0.010				
Bis(2-chlcroisopropy1)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010	<u> </u>			
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chlorcethane	0.010	ND<0.010			•	
Chloroform	0.010	ND<0.010			•	
1-Chioronexane	0.010	ND<0.010				
2-Shloroethyl vinyl ether	0.010	ND<0.010	 	•		
Cnloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND < 0.011	•			

Continued

Dibromochicnomethane Co.din N

Chlorotoluene





MICROCOPY RESOLUTION TEST CHART

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

1-FCD2-SB1-SS5-10-ITC

	Co	ncentratio	n		on Time	30 10 110
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				·
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-gichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				<u></u>
1,1,2-Tricnloroethane	0.010	ND<0.010				
Trichloroetnylene	0.010	ND<0.010				
Trichloroflucromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		L	ab Sample	No. 365	506-6			
Client		Field Sample No. 23-BDD8-SB2-SS8-20						
Project AF Plant 42		Date Collected _			4-08-86			
Client No.		Date Received _ Date Analyzed						
Laboratory Supervisor Approval:								
	_	Q	C Report N	o. <u>801</u>	8010-21			
Sample Matrix: / Water (ug/L) _/X / Soil (ug/g) / Other		Dilution Factor *MoistureN/A						
Spike Source								
Concentra			on	Retenti	Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		

	Concentration			Retention Time		T^{-}
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	NO<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

23-BDD8-SB2-SS8-20-ITC

			·	23-BDD8-SB2-SS8-20		
	$\overline{}$	Concentration			on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachlorcethane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				·
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		,	ah Samnle	No365	306-7	
Client			•		D2-SB1-SS15	-30-ITC
Project AF Plant 42			•	ted 4-0		
Client No.		٥	ate Receiv	red	0-86	
Laboratory Supervisor Appr		٥	ate Analyz	red	4-86	
		Q	C Report N	lo. <u>801</u>	0-21	
Sample Matrix: /_/ Water (ug/L)				actor		
<pre>/X / Soi? (ug/g) /_/ Other</pre>				N/A		
Spike Source					·	
	C	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				-
	I	1	1	1	Į.	1

	Concentration		Retenti			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chlorcethcxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodishloromethane	0.010	ND<0.010				<u> </u>
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carpon tetrachloride	0.010	ND<0.010			ļ	
Chloroacetaldehyde	0.010	ND<0.010				
Chional	0.010	ND<0.010				1
Chlorobenzene	0.010	ND<0.010				<u> </u>
Chloroethane	0.010	ND<0.010				<u> </u>
Chicroform	0.010	ND<0.010	<u> </u>		<u> </u>	<u> </u>
1-Chlononevane	0.010	ND<0.010			ļ	ļ
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chipromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010			<u> </u>	
Chionotoluene	0.010	ND<0.010				
Dibromochionomethane	0.010	ND<0.010			<u> </u>	

1-FCD2-SB1-SS15-30							
	Concentration			Retenti			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010					
1,1-Dichloroethane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	ND<0.010				<u></u>	
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachioroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				·····	
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010				·····	
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Viny ¹ cnloride	0.010	ND<0.010					

ND - This compound was not detected; the limit of detection for this analysis is iess than the amount stated in the table above.

ES Job No. <u>56394</u>	Lab Sample No	36506-8
Client	Field Sample No.	23-BD08-SB2-SS3-5-ITC
Project AF Plant 42	Date Collected _	4-08-86
Client No.	Date Received _	4-10-86
Laboratory Supervisor Approval:	Date Analyzed _	4-14-86
	QC Report No	8010-21
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	
/X / Soil (ug/g)	*Moisture N/	
<u>/</u> / Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Ch]oropenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Cnloroform	0.010	ND<0.010				Ĺ
1-Chloronexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethy: methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

23-BDD8-SB2-SS3-5-ITC

	Co	ncentratio	n	Retent	3-5-116	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010				
Tetracnioroethylene	0.010	ND<0.010				
1,1,1-Trichloroethare	0.010	ND<0.010				
1,1,2-Trichlorcethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				·
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				-
Vinyî chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Client Field Sample No. 1-FCD2-SB1-SS10-30-ITC Project AF Plant 42 Date Collected 4-09-86 Client No. Date Received 4-10-86 Laboratory Supervisor Approval: Date Analyzed 4-14-86 QC Report No. 8010-21 Sample Matrix: // Water (ug/L) Dilution Factor /X / Soil (ug/g) *Moisture N/A % // Other Spike Source	ES Job No. <u>56394</u>	Lab Sample No	36506-9
Client No. Date Received 4-10-86 Laboratory Supervisor Approval: Date Analyzed 4-14-86 QC Report No. 8010-21 Sample Matrix: / Water (ug/L) Dilution Factor /X / Soil (ug/g) *Moisture N/A % / Other /A /A	Client	Field Sample No.	1-FCD2-SB1-SS10-30-ITC
Laboratory Supervisor Approval: Date Analyzed 4-14-86 QC Report No. 8010-21 Sample Matrix: / Water (ug/L) Dilution Factor /X / Soil (ug/g) *Moisture N/A % /_ / Other	Project AF Plant 42	Date Collected _	4-09-86
QC Report No. 8010-21 Sample Matrix: / Water (ug/L) / Dilution Factor /X / Soil (ug/g) *Moisture / N/A % / Other / Other / N/A / %	Client No.	Date Received _	4-10-86
Sample Matrix: / Water (ug/L) Dilution Factor _/X / Soil (ug/g) *Moisture N/A % / Other	Laboratory Supervisor Approval:	Date Analyzed _	4-14-86
/_ / Water (ug/L) Dilution Factor /X / Soil (ug/g) *Moisture N/A % /_ / Other		QC Report No.	8010-21
/X / Soil (ug/g) *Moisture N/A % /_ / Other	Sample Matrix:		
/_/ Other	// Water (ug/L)	Dilution Factor	
	<u>/X</u> / Soil (ug/g)	*MoistureN/	A
Spike Source	// Other		
	Spike Source		

	С	Concentration		Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.610	ND<0.010				

1-FCD2-SB1-SS10-30-ITC

	Co	ncentratio	n		on Time	.0 00 1:0
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	C.010	ND<0.010				
Dichlorometnane	0.010	ND<0.010				·
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				<u> </u>
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloriae	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		L	ab Sample	No.	365	06-10	
Client		F	ield Sampl	e No.	1-FC	D2-SB1-SS10)-30-ITC_Dup
Project AF Plant 42		D	ate Collec	ted _	4-0	9-86	
Client No.		ם	ate Receiv	ed _	4-1	0-86	
Laboratory Supervisor Approval	:	D	ate Analyz	ed	4-1	4-86	
	_	Q	C Report N	o	801	0-21	
Sample Matrix:							
/_/ Water (ug/L)		D	ilution Fa	ctor			
<u>/X</u> / Soil (ug/g)		*M	oisture	N//	٩		<u> </u>
<u>/</u> / Other							
Spike Source							
	C	oncentrati	on	Re	tenti	on Time	
			C-1			0.7 0	

1	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010	<u> </u>			
Chloroacetaldehyde	0.010	ND<0.010			<u> </u>	
Chloral	0.010	ND<0.010				
Chloropenzene	0.010	ND<0.010	<u> </u>		<u></u>	
Chloroethane	0.010	ND<0.010				
Chioroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010	<u> </u>		<u></u>	
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethy! methy! ether	0.010	ND<0.010				
Chionotoluere	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

1-FCD2-SB1-SS10-30-ITC								
		ncentratio			on Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Dipromomethane	0.010	ND<0.010						
Dichlorodifluoromethane	0.010	ND<0.010						
1,1-Dichloroethane	0.010	ND<0.010						
1,2-Dichlorcethage	0.010	ND<0.010						
1,1-Dichloroethylene	0.010	ND<0.010						
trans-1,2-dichlordethylene	0.010	ND<0.010						
Dichloromethane	0.010	ND<0.010						
1,2-Dich oropropane	0.010	ND<0.010						
1,3-Dichloropropylene	0.010	ND<0.010						
1,1,2,2-Tetrachloroethane	0.010	ND<0.010						
1,1,1,2~Tetrachloroethane	0.010	ND<0.010						
Tetrachloroethylene	0.010	ND<0.010						
1,1,1-Trichloroetname	0.010	ND<0.010						
1,1,2-Trichloroethane	0.010	ND<0.010						
Inichlomoethylene	0.010	ND<0.010						
Trichlorofluoromethane	0.010	ND<0.010						
Trichloropropane	0.010	ND<0.010						
Vinyl chloride	0.010	ND<0.010						

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>			ab Sample					
Client			·		D2-SB1-SS1	<u>0-30-170</u> 5;		
Project AF Plant 42		ם	Date Collected 4-09-86					
Client No.		0	ate Receiv	ed4-1	4-10-86			
Laboratory Supervisor Appro	oval:	מ	ate Analyz	ed <u>4-1</u>	4-85			
		Q	C Report N	lo801	0-21			
Sample Matrix:								
<pre>/_/ Water (ug/L)</pre>		0	lilution Fa	ictor				
<u>/X</u> / Soil (ug/g)		*M	loisture	N/A		<u> </u>		
// Other								
Spike Source								
	c	oncentrati	on	Retenti	on Time			
Compound	Det Lim	Column 1	Column 2	 Column 1	Column 2	Notes		
Benzyl chloride	0.005							

	С	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.005						
Bis(2-Chloroethoxy)methane	0.005						
Bis(2-chloroisopropyl)ether	0.005						
Bromobenzene	0.005						
Bromodichloromethane	0.005	.050		14.8			
Bromoform	0.005	.047		20.1			
Bromomethane	0.005						
Carbon tetrachloride	0.005	.040		14.40			
Chloroacetaldehyde	0.005						
Chicral	0.005						
Chlorobenzene	0.005	.040		24.9			
Chlongethane	0.005						
Chloroform	0.005	.048		12.0			
1-Chlorohexane	0.005						
2-Chloroethyl vinyl ether	0.005						
Chloromethane	0.005						
Chloromethyl methyl ether	0.005						
Chlorotoluene	0.005						
Dibromoch teremethane	0.005	.146		17.5			

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB1-SS10-30-ITC Spik

			· · · · · ·		CD2-SB1-SS1	0-30-1 0
1		ncentratio			on Time	
Compauna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
. Discorptione	0.005					
interiereativereteare	0.005					
11.1-Gran andethane	0.005	.050		10.9		*
, 1,1-1:onlongetrare	0.005	.054		12.8		
: 1-0:chichceth, lene	C.005	.025		9.2		
thans-1.2-gronioncetrylene	0.005	.045		11.6		
_Ongnisherhane	0.005	.041		7.3		
<u> 1,1-3 ten lonophopana</u>	0.005	.026		16.1		
<u>[1,4-0] / Consphag.lene</u>	0.005	.146		16.3		
	0.005	.095		22.3		
i i la 2-Tetrach choethane	0.005					
Ternachionsethylene	0.005	.095		22.3		
: ::::::::::::::::::::::::::::::::::::	0.005	.045		13.9		
1.j.2+Intoriondethane	0.005	.146		16.3		
Trianianaeth,lene	0.005	.042		16.8		
	0.005					
Intonionopropane	0.005					
r. cricrice	0.005					

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

1-FCD2-SB1-SS10-30-ITC Lap Sample Nos.			Q	C Repor	t No.	802	0-19		
Duplicates 36506-11,-12			Đ	ate Ana	lyzed	4-14-	86		
Spike 36506-13	_			aborato					
Sample Matrix:					,		• •		
/ Water (ug/L)			<u></u>	ilution	Facto	r	N/A		
/X / Soil (ug/g)				oisture			_		
				o i s cui c					
/ / Other	· · · · · · · · · · · · · · · · · · ·								
Spike Source									
	T								
			plicat	es	s	pike R	ecovery		
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
_	ND<	ND<	ND<			ND<			
Benzene	0.005		0.005		0.050		0.050	100	
Ch 1	ND<	ND<	ND<		0 055	ND<	0.040	0.7	
Chloropenzene	0.005		0.005 ND<		0.055	ND<	0.048	87	
1,2-Dichloropenzene	ND<	ND<	0.005		0.055		0.056	102	
1,2-b (ci. for oberizerie	ND<	ND<	ND<		0.033	ND<	0.036	102	
1,3-Dichloropenzene	0.005	1	0.005		0.055		0.054	98	
	ND<	ND<	ND<			ND<			
1,4-Dichlorobenzene	0.005	1	0.005		0.055	l	0.054	98	
	ND<	ND<	ND<			ND<			
Ethyl benzene	0.005	0.005	0.005		0.055	0.005	0.035	65	
	ND<	ND<	ND<			ND<			
Toluene	0.005		0.005		0.060		0.057	95	
	ND<	ND<	ND<			ND<			
Xylenes (Dimethyl benzene)	0.005	0.005	0.005			0.005			
		l							

ES Job No. 56394		Ĺ	ab Sample	No. <u>3650</u>	6-6	
Client		F	ield Sampl	e No. 1-FC	:D2-SB1-SS14	1-50-170
Project AF Plant 42 IRP-II			ate Collec	ted 4-	09-86	
Client No.			ate Receiv			
Laboratory Supervisor Approv					14-86	
			C Report N		20 10	
Sample Matrix:						
<pre>/// Water (ug/L)</pre>		0	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	loisture _			<u> </u>
/_/ Other						
Spike Source						
	Co	ncentratio	·n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2		Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Etnyî penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
		ļ				
						
1				1	1	

ES JOD NO		Lab Sample No. 36506-1					
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB1-SS5	-10-ITC	
Project AF Plant 42 IRP-II		ρ	ate Collec	ted <u>4-</u>	09-86		
Client No.		2	ate Receiv	ed4-	10-86		
Laboratory Supervisor Approva		ם	ate Analyz	ed4-	14-86	·	
					20-19		
Sample Matrix:							
\angle _/ Water (ug/L)		Dilution Factor N/A					
<u>/X</u> / Soil (ug/g)							
/_/ Other				 			
Spike Source							
1	Ţ						
		ncentratio			on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005				_	
Chicrobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Etnyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl penzene)	0.005	ND<0.005					

ES Job No. <u>5639</u> 4		L	ab Sample	No. <u>3650</u>	6-8			
Client		F	ield Sampl	e No. <u>23-B</u>	DD8-SB2-SS8	1-20-11		
Project <u>AF Plant 42 IRP-II</u>		0	ate Collec	ted <u>4-</u>	08-86			
Client No		0	ate Receiv	rea4-	10-86			
Laboratory Supervisor Approve		Date Analyzed <u>4-14-86</u>						
		Q	C Report N	io. <u>80</u>	20-19			
Sample Matrix:								
<pre>∠_/ water (ug/L)</pre>		C	dilution Fa	ictor	N/A			
<u>/X</u> / Soil (ug/g)		*M	loisture _			9		
// Other								
Spike Sounce			<u> </u>					
	Co	ncentratio	n.	Retenti	on Time			
Compouna					Column 2	Notes		
Benzene	0.005	ND<0.005						
Cnioropenzene	0.005	ND<0.005						
1,2-Dichloropenzene	0.005	ND<0.005						
1,3-Dichlorobenzene	0.005	ND<0.005						
1,4-Dichloropenzene	0.005	ND<0.005						
Etnyî benzere	0.005	ND<0.005						
Toluene	0.005	ND<0.005				···		
Xylenes (Dimetnyl penzene)	0.005	ND<0.005						
			İ		1			

ES Jon No. <u>56394</u>	Lab Sample No36506-9							
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB1-SS1	-30-ITC		
Project AF Plant 42 IRP-II		D	ate Collec	ted4-	09-86			
Client No.		D	ate Receiv	ed4-	10-86			
Laboratory Supervisor Approva		Date Analyzed 4-14-86						
	_		C Report N					
Sample Matrix:								
/_/ Water (ug/L)		D	ilution Fa	ctor	N/A			
<u>/X</u> / Scil (ug/g)		*M	loisture			%		
// Other					· · · · · · · · · · · · · · · · · · ·			
Spike Source								
	Co	ncentratio	'n	Retenti				
Compound	Det Lim	Column 1	Column 2			Notes		
Benzene	0.005	ND<0.005						
Chloropenzene	0.005	ND<0.005						
1,2-Dichlorobenzene	0.005	ND<0.005						
1,3-Dichloropenzene	0.005	ND<0.005	~					
1,4-Dichlorobenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	ND<0.005						
		i						

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ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. <u>56394</u>		Lab Sample No. <u>36506-10</u>				
Client		F	ield Sampl	e No. <u>23-B</u>	DD8-582-SS	3-5-ITC
Project AF Plant 42 IRP-II		۵	ate Collec	ted4-	08-86	
Client No.		ם	ate Receiv	ed4-	10-86	
Laboratory Supervisor Approve		D	ate Analyz	ea <u>4-</u>	14-86	
	_	Q	C Report N	o. <u>80</u>	20-19	
Sample Matrix:						
<pre>// Water (ug/L)</pre>		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	loisture _			٠ ٤
// Other						
Spike Source						
	T				· · · · · · · · · · · · · · · · · · ·	
	Co	ncentratio	n	Retenti	on Time	Ì
Compound				Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorocenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)		ND<0.005				
I Series (Bringer)	0.000					

ES Job No56394		L	ab Sample	No3650	06-11			
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB1-SS10)-30-IFC		
Project AF Plant 42 IRP-II		D	ate Collec	ted4-	09-86			
Client No.		D	ate Receiv	ed <u>4-</u>	10-86			
Laboratory Supervisor Approve		Date Analyzed <u>4-14-86</u>						
		Q	C Report N	o. <u>80</u>	20-19			
Sample Matrix:								
// Water (ug/L)		Dilution Factor N.A						
<pre>/X / Soil (ug/g)</pre>		×M	loisture _					
/_/ Other				 				
Spike Source								
	Co	ncentratio	n .	Retenti	on Time			
Compound	Det Lim	Column 1	Column 2		Column 2	Notes		
Benzene	0.005	ND<0.005						
Chioropenzere	0.005	ND<0.005						
1,2-Dichloropenzene	0.005	ND<0.005						
1,3-Dichioropenzene	0.005	ND<0.005						
1,4-Dichloropenzene	0.005	ND<0.005				····		
Ethyl penzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
<pre>/ylenes (Dimethyl benzene)</pre>	0.005	ND<0.005						

ES Job No. <u>56394</u>	No. <u>56394</u> Lab Sam				6-12				
Cinent		F	ield Sampl	e No. <u>1-FC</u>	D2-SB1-SS10	-30-ITC D			
Project AF Plant 42 IRP-II		0	ate Collec	tea <u>4-</u>	09-86				
Client No.		ם	ate Receiv	ed4-	10-86				
Laboratory Supervisor Approva		0	Date Analyzed 4-14-86						
	_	Q	C Report N	080	20-19				
Sample Matrix:									
<pre>¿ / Water (ug·L)</pre>		0	ilution Fa	ctor	N/A				
<u>ix</u> / Soil (ug/g)		*M	*Moisture						
/_/ Other									
Spike Source									
1	T			I	·····				
		ncentratio		Retenti					
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes			
! ;:Benzene	0.005	ND<0.005							
Chloropenzere	0.005	ND<0.005							
1,2-Dichloropenzene	0.005	ND<0.005							
1.3-Dronlorobenzene	0.005	ND<0.005							
1,4-Bronlonoperzene	0.005	ND<0.005							
Ethyl berzene	0.005	ND<0.005							
Toluene	0.005	ND<0.005							
Xylenes (Dimethyl penzene)		ND<0.005							
		<u> </u>							

ES Job No56394	Lab Sample No. <u>36506-12</u>						
Client		F	Field Sample No. 1-FCD2-SB1-SS10-30-17				
Project AF Plant 42 IRP-II			Date Collected 4-09-86				
Client No.			Date Received 4-10-86				
Laboratory Supervisor Appr	rovaì:	٥	ate Analyz	zed <u>4-</u>	14-86		
				vo80			
Sample Matrix:							
/ / Water (ug/L)		D	ilution Fa	ictor	N/A		
<u>/X</u> / Soil (ug/g)		★M	oisture			<u> </u>	
// Other							
Spike Source							
	Co	ncentratio	n	Retent	ion Time		-
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	-
Ben ze ne	0.005	G.050		2.6			
1 : 	j		ì	i			

	Co	ncentratio	n	Retenti	Retention Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	0.050		2.6		
Cnloropenzene	0.005	0.048		7.9		
1,2-Dichloropenzene	0.005	0.056		14.4		
1,3-Dichioropenzere	0.005	0.054		12.9		· · · · · · · · · · · · · · · · · · ·
1,4-Dichloropenzene	0.005	0.054		12.7		
Ethyl benzene	0.005	0.036		7.4		
Toluene	0.005	0.057		4.8		
Xylenes (Dimethyl benzene)	0.005					



ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Engineering Science 57 Executive Park So., Ste. 590 Atlanta, GA 30329-2213 October 8, 1986

Attn: M.A. Guthrie

Page 1 of 20

April 11, 1986

56394

36515 mg:

REVISED REPORT

Five (5) soil samples

Sample Number	_Date	Time
1-FCD2-SB1-SS19-75-ITC	4-09-86	0930
1-FCD2-SB2-SS19-75-ITC	4-10-86	0830
1-FCD2-SB2-SS5-10-ITC	4-10-86	0830
1-FCD2-SB2-SS10-30-ITC	4-10-86	0830
1-FCD2-SB2-SS14-50-ITC	4-10-86	0830

The samples were analyzed for Purgeable Halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic Volatile Organic compounds using a Texman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photonomization detector. The samples were prepared according to EPA Method 6020. The results are listed on the following summary sheets.

In addition the samples were analyzed for Total Petroleum Hydrocarbons (TPH) by infrared spectroscopy technique (EPA Method 418.1, Extraction Method 3550). The results are listed in Table I.

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director

Table I

Sample: AF Plant 42 IRP-II, ES Job No. 56394 Date of Analysis: 4-15-86

Total Petroleum Hydrocarbons (ug/a)

1-FC02-SB1-SS19-75-ITC	ND<2
1-FCD2-SB2-SS19-75-ITC	ND<2
1-FCD2-SB2-SS5-10-ITC	6800
1-FCD2-SB2-SS10-30-ITC	1120
1-FCD2-SB2-SS14-50-ITC	ND<2
1-FCD2-SB2-SS19-75-ITC Dup.	ND<2
1-FCD2-SB1-SS19-75-ITC Spike	28
Spike Concentration	31

Percent Recovery: 90%

Relative Percent Difference: N/A

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample No	36515-13
Field Sample No.	1-FCD2-SB1-SS19-75-ITC
Date Collected _	4-9-86
Date Received	4-11-86
Date Analyzed	4-14-86
QC Report No	8010-21
Dilution Factor	NA
*Moisture	
	·
	Field Sample No. Date Collected Date Received Date Analyzed QC Report No. Dilution Factor

	Concentration			Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.C10				
Bromomethane	0.010	ND<0.010				1
Carbon tetrachloride	0.010	ND<0.010				
<u>Chloroacetaldenyde</u>	0.010	ND<0.010				<u> </u>
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chicrchexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

1-FCD0-SB1-SS19-75-170

	Concentration			Retenti		
	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
. Postan ane trane ilili	0.0:0	ND<0.010				
n_no.intlucromethank	0.010	ND<0.010	<u> </u>			
1 1-2 or Concernane	0.010	ND<0.010				
. 1-1-griondetrane	0.010	ND<0.010				
1.1-Shanion:strylene	0.010	ND<0.010				
tronge willed an lanceto Person	1 0.0:0	ND<0.010			<u> </u>	
Dran anometrane	0.010	ND<0.010				
1.2-Grenionephapane	0.010	ND<0.010				
i 3-Charlaraonap.iene	0.0:0	ND<0.010				
1,1,2,2-Tethachichcethane	0.010	ND<0.010				
<u>i.i.i.i.2-letnachichdetnane</u>	0.010	ND<0.610				
Ternachionsethylene	0.010	ND<0.010				
1 1.1-TriorTonoethane	0.010	ND<0.010				
[1.1,2-Trich]ongethane	0.010	ND<0.010				
<u>Intoriorcetr, ene</u>	0.010	NO<0.010				
Inich undflunnomethane	0.010	ND<0.010				
Thism onsphosane	0.010	ND<0.010				
viry) ghìchide	0.010	ND<0.010				

^{&#}x27;v2 - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No	36515-12
Client	Field Sample No.	1-FCD2-SB2-SS19-75-ITC
Project AF Plant 42 IRP-II	Date Collected	4-10-86
Client No.	Date Received	4-11-86
Laboratory Supervisor Approval:	Date Analyzed	4-14-86
	QC Report No	8010-21
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	NA
<u>/X</u> / Soi? (ug/g)	*Moisture	9
/_/ Other		
Spike Source		· · · · · · · · · · · · · · · · · · ·

	С	Concentration			on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chlorcethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochlorometrare	0.010	ND<0.010				

1-FCD2-SB2-SS19-75-ITC

	Concentration		Retenti			
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
1,1-Dichloroethylene	0.010	ND<0.010				·
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichioromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010			<u></u>	
1.3-Dichloropropylene	0.010	ND<0.010				-
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36515-14
Client	Field Sample No.	1-FCD2-SB2-SS5-10-ITC
Project AF Plant 42 IRP-II	Date Collected	4-10-86
Client No.	Date Received	4-11-86
Laboratory Supervisor Approval:	Date Analyzed	4-14-86
	QC Report No.	8010-21
Sample Matrix:		
<pre>// Water (ug/L)</pre>	Dilution Factor _	NA
/X / Soil (ug/g)	*Moisture	9
// Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethare	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chlora!	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

1-FCD2-SB2-SS5-10-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichicroethane	0.010	ND<0.010				<u></u>
1,2-Dichloroethare	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				<u></u>
1,3-Dichioropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				· -
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroetname	0.010	ND<0.010				
1,1,2-Trichioroethane	C.01C	ND<0.010				· _ ·_ ·_ ·
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Viny? chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394		Lab Sample No. 36515-4					
Client		F	D2-SB2-SS10	2-SS10-30-ITC			
Project <u>AF Plant 42 IRP-II</u>		D	ate Collec	ted	4-10-86		
Client No.		D	ate Receiv	ed	4-11-86		
Laboratory Supervisor Approva	11:	D	ate Analyz	ed	4-15-86		
	_	QC Report No.			8010-21		
Sample Matrix:							
<pre>/_/ Water (ug/L)</pre>		D	ilution Fa	ctor	NA		
<u>/X</u> / Scil (ug/g)		*Moisture					
							
Spike Source							
	Concentration Retention Time						
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010					
Bie (2 Chlanathau)	0.010	ND <0.010					

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxylmethane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichlonomethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.016				
Carton tethachloride	0.010	ND<0.010				
Chlorcacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chioropenzere	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Shlorchevane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

1-FCD2-SB2-SS10-30-ITC

	Concentration			Retenti		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodiflucromethane	0.010	ND<0.010				
1,1-Dichionoethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichlonoethylere	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-D:chloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroetnylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394			Lab Sample No. 36515-5						
Client	F	Field Sample No. 1-FCD2-SB2-SS14-50-ITC							
Project AF Plant 42 IRP-II			Date Collected 4-10-86						
Client No.	·	Date Received 4-11-86							
Laboratory Supervisor Approva		D	ate Analyz	ed	4-15-86				
	_		C Report N						
Sample Matrix:									
<u>/</u> / Water (ug/L)		D	ilution Fa	ctor	NΔ				
<u>/X_</u> / Sofl (ug/g)		*M	oisture _			:			
/_/ Other					· - · · · · · · · · · · · · · · · · · ·				
Spike Source									
	C	oncentrati	on	Retenti	ion Time				
Cempound	Det Lim	Column 1	Column 2		Column 2	Notes			
Benzyl chloride	0.010					1			
Bis(2-Chloroethoxy)methane		ND<0.010							
Bis(2-chloroisopropyl)ether	0.010	ND<0.010							
Bromobenzene	0.010	ND<0.010							
Bromodichloromethane	0.010	ND<0.010							
Bromoform	0.010	ND<0.010							
Bromomethane	0.010	ND<0.010							
Carbon tetrachloride	0.010	ND<0.010							
Chlonoacetaldehyde	0.010	ND<0.010							
Chloral	0.010	ND<0.010				<u> </u>			
Chlorobenzene	0.010	ND<0.010							
Chloroethane	0.010	ND<0.010							
Chloroform	0.010	ND<0.010							
1-Chlorohexane	0.010	ND<0.010							
2-Chloroethyl vinyl ether	0.010	ND<0.010							
Chloromethane	0.010	ND<0.010				_			
Chloromethyl methyl ether	0.010	ND<0.010				_			
Chlorotoluene	0.010	ND<0.010							

0.010 ND<0.010

Continued

Dibromochloromethane

1-FCD2-SB2-SS14-E - 1

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	, N. 1
Diphomemetrane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010	: ! 			
trans-1,2-dionioroethylene	0.010	ND<0.010				
<u>Dranlonomethane</u>	0.010	ND<0.010				
1,2-Dichlonopropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-TetrachToroethane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				···
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylere	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropare	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Anomatic Volatile Organics SW Method 8020

Lab Sample Nos. 1-FCD2-SB2-SS14-50-ITC				QC Report No8				0	
Dublicates 36515-6, 36515-7			D	Date Analyzed 4-16-86					
Srike36515-8					-		r Appro		
Samole Matrix:							·		
ing water (ug E)			D	ilution	Facto	r	NA		
<u>x</u> Soil (ug Kg)				oisture					*
Other									
Spike Sounce									
i									
:				es			ecovery		
Compound	Blank			RPD	SA		SSR	PΩ	Notes
	0.00-	1	ND<	i	0.050	ND<			
Benzere	<0.005				0.050		0.038	76	
, Chloropenzene	<0.005		ND<		0.053	ND<	0.036	68	
1	10.003		ND<		0.000	ND<	0.000		
1,2-Dionloropenzene	<0.005		0.005		0.054		0.037	69	
			ND<			ND<			
1,3-Dichloropenzene	<0.005	0.005	0.005		0.056	0.005	0.038	68	
	•	ND<				ND<			
1,4-Bronlenobenzene	<0.005				0.053		0.037	70	
		ND<	1 - 1			ND<			
Etr.y benzene		·	0.005		0.054	0.005 NO<	0.037	69	
! _Toluene	•	ND<	:		0.050		0.039	66	
C de le		ND<				ND<	0.033	00	<u> </u>
<pre>Xylenes (Dimethyl penzene)</pre>		i	,	-					
		, <u></u>							
<u> </u>	<u> </u>		<u> </u>						
<u> </u>	 	<u> </u>							
		 -			i l				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Jac No56394		L	ab Sample	No.	36515-5				
Client		Field Sample No. 1-FCD2-SB1-SS19-75-							
Project AF Plant 42 IRP	- i I								
Cinent No.									
Laponatony Supervisor Approvi									
			C Report N						
Sample Matrix:		·	•						
<pre></pre>		ū	dilution Fa	ictor	N/A				
<u>/X</u> Soff (ug g)			loisture			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
Cthen									
Spike Sounce									
,	1			Τ					
1	Co	ncentratio	on .	Retenti	on Time				
Compound			Column 2			Notes			
: Benzene	0.005	ND<0.005							
Cnlonopenzene	0.005	ND<0.005							
:									
1,2-Dighloropenzene	0.005	ND<0.005				 			
1,3-Oronlonopenzene	0.005	ND<0.005							
1,4-Dichloropenzene	0.005	ND<0.005							
Ethy? penzene	0.005	ND<0.005							
Toluene	0.005	ND<0.005							
Xylenes (Dimetnyl penzene)	0.005	ND<0.005							
<u> </u>	1	<u> </u>							

 $[\]mbox{NS}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Jop No. 56394		Lab Sample No. 36515-4						
Client		F	ield Sampi	e No. <u>1-F</u>	1-FCD2-SB2-SS19-75-I7			
Project AF Plant 42 IRP	-II	D	4-10-86	·				
Client Nc.		Date Received 4-11-86						
Laboratory Supervisor Approva		Date Analyzed 4-16-86						
		Q	C Report N	o	8020-20			
Sample Matrix:								
<pre>/_/ water (ug/L)</pre>		D	ilution Fa	ctor	N/A			
<u>X</u> / Soil (ug/g)		**	bisture _					
<u>/</u> / Other								
Spike Source								
<u></u>	<u> </u>			1		1		
t :	Co	ncentratio	n	 Retenti	on Time			
Compouna		Column 1				Notes		
Benzene	0.005	ND<0.005						
Cnloropenzene	0.005	ND<0.005						
1,2-Dichioropenzene	0.005	ND<0.005						
1,3-Dichlorobenzene	0.005	ND<0.005						
1,4-Dichloropenzere	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimetnyl benzene)	0.005	ND<0.005						
								

NC - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Jop No. 56394		Lab Sample No. <u>¢36515-10, 36515</u>					
Client		Field Sample No. <u>1-FCD2-SB2-SS5-</u>					
Project AF Plant 42 IRP-		Date Collected 4-10-86					
Client No.							
Laboratory Supervisor Approva		D	ate Analyz	ed			
	_	QC Report No. 8020-20					
Sample Matrix:							
<pre>/_/ Water (ug/L)</pre>		D	ilution Fa	ctor <u>¢Con</u> c	; 1:500	····	
<u>/X</u> / Soil (ug/g)		*M	oisture				
/_/Otner				· · · · · · · · · · · · · · · · · · ·		· ·· · · · · · · · · · · · · · · · · ·	
Spike Source							
	1				<u>-</u> -	!	
	Co	ncentratio	'n	Retenti	on Time		
Compound		Column 1				Notes	
Benzene	0.005	ND<0.005					
Chloropenzene		ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichloropenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Etnyl penzene	0.005	0.047		7.3			
Toluene	0.005	ND<0.005					
Xylenes (Dimetry) benzene)	0.005	ND<0.005					
	1	T		I			

^{¢ -} Several sample concentrations were analyzed due to matrix effects

 $N\mathbb{D}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		Ĺ	ab Sample	No	36515-9			
Client		F	ield Sampl	e No. <u>1-</u> F	CD2-SB2-SS	10-30-ITC		
Project <u>AF Plant 42 IRP</u>	-II	Ω	ate Collec	ted	4-10-86			
Client No.		Ē	ate Receiv	ed	4-11-86			
Laboratory Supervisor Approv		E	ed	4-16-86				
			C Report N					
Sample Matrix:								
∠ / Water (ug/L)			dilution Fa	ctor	6020-20			
<u>/X</u> / Soil (ug/g)		*M	loisture		N/A	\$		
/_/ Other								
Spike Source								
			n					
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzene	0.005	ND<0.005						
Cnloropenzene	0.005	ND<0.005						
1,2-Dichloropenzene	0.005	ND<0.005						
1,3-Dichloropenzene	0.005	ND<0.005						
1,4-D-cnloropenzene	0.005	ND<0.005						
Ethyl penzeno	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	ND<0.005						
1								

 $[\]mbox{ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Jos N <u>56394</u>		L	ap Sample	No	36515-6	
, · · e · t		F	iela Sampl	e No. <u>1-F</u>	CD2-SB2-SS	14-50-II
ProjectAF_Plant_42_IRP+II		ō	ate Collec	tea	4-10-86	
Cinent No.		D	ate Receiv	ed	4-11-86	
Laginatin, Suckhyrson Approve	aì:	0	ate Analyz	ed	4-16-86	
		Q	C Report N	o	8020-20	
Sample Matricks						
_ , water ug .		D	ilution Fa	ctor	8020-20	
_* Similappg:		*M	loisture		N/A	
Stake Sturce		_				
	,					
		ncentratio	ır	 Retenti	on Time	
			Column 2			Notes
• • • • • • • • • • • • • • • • • • • •					!	
Éantana Martina	0.005	ND<0.005				
	0.005	ND<0.005				
	1-0.005	10000			 	
<u> 1 Relega properzena</u>	0.005	ND<0.005				
	0.005	1	ĺ			
. Aug-Bian Progrenzene	0.005	ND<0.005				
1.4-1:onPorpsengere	0.005	ND<0.005				
		1				
<u>Eth, canzene</u>	0.005	NP<0.005	 			
. Trger.)	0.005	ND<0.005				
	1 0.003	113 (0.1003	 			
Yy bren himethy benzehel	0.005	ND<0.005				
						i
	1					
	1	1	1		1	}

NO - This compound was not detected; the limit of detection for this analysis is less than the abount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No	36515-7	<u> </u>
Client		F	iela Sampl	e No. <u>1-F</u>	CD2-SB2-SS	14-5C-IT
Project AF Plant 42 IRP-	- I I	٥	ate Collec	ted	4-10-86	
Client No.					4-11-86	
Laboratory Supervisor Approva	al:	Date Analyzed		ed	4-16-86	
			C Report N			
Sample Matrix:						
// Water (ug/L)		0	ilution Fa	ctor	8020-20	
<u>/X</u> / Soil (ug/g)		*M	oisture		N/A	
// Other				· · · · · · · · · · · · · · · · · · ·		
Spike Source						
	T					 -
	Co	ncentratio	n	Retenti	on Time	
Compound					Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
170 Bigitist Obertzeite	0.005	1100.000	 	 		
1,4-Dichlorobenzene	0.005	ND<0.005				
Etnyl penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Etnyl penzene

Xylenes (Dimethyl benzene)

Toluene

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		L	ab Sample	No.	36515-8	Spike
Client		Field Sample No1			CD2-SB2-SS	14-50-IT
Project AF Plant 42 IF		٥	ate Collec	ted	4-10-86	
Client No.		D	ate Receiv	ed	4-11-86	
Laboratory Supervisor Appro	ovaī:	D	ate Analyz	ed	4-16-86	
		Q	C Report N	o	8020-20	
Sample Matrix:						
<pre>// Water (ug/L)</pre>		D	dilution Fa	ctor	8020-20	
<u>x</u> / Soil (ug/g)		×M	loisture		N/A	
/_/ Other						
	····					
		incentratio	in.	Retenti	on Time	
Spike Source	Co	ncentratio	n Column 2	Retenti Column 1	on Time	Notes
Spike Source	Co Det Lim					Notes
Compound Benzene	Co Det Lim	Column 1		Column 1		Notes
Compound Benzene Chiorobenzene	Det Lim	0.038		Column 1 2.6		Notes
Spike Source	0.005 0.005	0.038 0.036 0.037		2.6 7.9		Notes

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

0.005 0.037

0.039

ND<0.005

0,005

0.005

7.4

4.9

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ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

Engineering Science 57 Executive Park S., Suite 590 Atlanta, GA 30329-2213 October 8, 1986

Attn: M.A. Guthrie

Page 1 of 35

April 15, 1986

56394

36546/rjc

REVISED REPORT

Eight (8) soil samples.

Sample Numper	<u>Date</u>	Time
1-FCD2-SB3-SS5-10-ITC	4-11-86	1045
1-FCD2-SB3-SS10-30-ITC	4-11-86	1045
1-FCD2-SB3-SS14-50-ITC	4-11-86	1045
1-FCD2-SB4-SS2-2.5-ITC	4-12-86	0900
1-FCD2-SB4-SS5-10-ITC	4-12-86	0900
1-FCD2-SB4-SS10-30-ITC	4-12-86	0900
1-FCD2-SB5-SS2-2.5-ITC	4-12-86	1030
1-FCD2-SB5-SS5-10-ITC	4-12-86	1030

The samples were analyzed for purgeable halocarbons using a Tekman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Texman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a protoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

The samples were analyzed for Total Petroleum Hydrocarbons (TPH) by infrared spectroscopy technique (EPA procedure 418.1). The results are listed in Table I.

William P. Fassinger

Chemist

Richard L. Merrell Laporatory Director

Table I

SAMPLE: ES Job No. 56394, AF Plant 42, IRP-II
DATE OF ANALYSIS: 4-25-86

Sample Identification	Total Petroleum Hydrocarpons (ug/g)
1-FCD2-SB5-SS5-10-ITC	ND<2
1-FCD2-SB5-SS2-2.5-ITC	190
1-FCD2-SB4-SS5-10-ITC	3
1-FCD2-SB4-SS10-30-ITC	ND<2
1-FCD2-SB4-SS2-2.5-ITC	450
1-FCD2-SB3-SS10-30-ITC	ND<2
1-FCD2-SB3-SS5-10-ITC	7100
1-FCD2-SB3-SS14-50-ITC	3
1-FCD2-SB3-SS14-50-ITC Duplicate	ND<2
1-FCD2-SB3-SS14-50-ITC Spike	21
Spike Concentration	22

Relative Percent Difference - N/A

Percent Recovery - 95.5%

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

QC Report No	8010-24	
Date Analyzed	4-21-86	
Laboratory Superv	isor Approval:	
Dilution Factor _	N/A	
*Moisture		%
	Date Analyzed	Date Analyzed 4-21-86 Laboratory Supervisor Approval: Dilution Factor N/A

		Duplicates		Spike Recovery					
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<						
Benzyl chloride	0.010		0.010			<0.010			
Bis(2-Chloroethoxy)methane	₩ ^D δ10	8 ⁰ δ10	θ.δ10			<0.010			
Bis(2-Chloroisopropyl)ether	80.610	80.510	₩ ^D δ10			<0.010			
Bromopenzene	8 ^D δ1c	80.610	80610			<0.010			
Bromodichloromethane	₩ ^D . 610	θ.δ ₁₀	ND δ10		0.050	<0.010	0.053	106	
Bromoform	θ.δ10	ND δ10	ზ ^ე გ ₁₀		0.050	<0.010	0.041	82	
Bromomethane	θ ^D . ό10	8 ^D δ10	θ ^D δ10			<0.010			
Carpon tetrachioride	8 ^D δ10	ტე ₀ ე	₩ ^D . б10		0.050	<0.010	0.055	110	
Chloroacetaldehyde	₩ ^D δ10		θ ^D δ10			<0.010			
Chioral	80.610	Ŋ ^D .δ10	θ. δ10			<0.010			
Chioropenzene	შ ^ი გე	₿ ⁰ .δ10	80.610		0.050	<0.010	0.051	102	
Chioroethane	θ ^D . ό10	θ.δ10	ŊD ₆₁₀			<0.010			
Chloroform	ND δ10	θ.δ ₁₀	₩ ^D . б10		0.050	<0.010	0.052	104	
1-Chlorohexane	8º. 610	₩ ^D δ10	θ ^D δ10			<0.010			
2-Chlorcethyl vinyl ether	80.610	ND გე	^{გე} . გე			<0.010			
Cnioromethane	ND δ10	θ ^D δ10	გეგენ მ. გენ			<0.010			
Chloromethyl methyl ether	₩ ^D δ10	ტ <u>ე</u> გე	80.61c			<0.010			
Chlorotoluene	₩ ^D δ10	₿ ^ი გე	ŊD. 610			<0.010			
Dipromoch]oromethane	8º.610	8 ⁰ δ10	θ.δ10		0.155	<0.016	0.158	102	

continued on next page

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB3-SS10-30-11U

				; · · · · · ·		usars s	rational		
1	İ	Du	plicate		+	<u>Spike Re</u>	,		
Compouna	Blank	<u>C1</u>	C2	RPD	SA	SR	SSR	PR ·	Notes
Dipromomethane	ND< 0.010	ND< 0.010	ND< 0.010			<0.010			
Dichlorodifluoromethane	80.610	ND δ10	8ºδ10			<0.010	~		
1,1-Dichlorpethane	8º.610		₩ ^D δ10		0.050	<0.010	0.052	104	
1,2-Dichionoethane	ტ <u>ე</u> გენე	ND δ10	₩ ^D .Ó10		0.050	<0.010	0.051	102	
1,1-Dichloroethylene	ŊD ₆₁₀	8 ⁰ δ10	შ ^ე გე		0.050	<0.010	0.026	52	
trans-1,2-dichloroethylene	8º. 610	80.δ10	θ ^D .δ10		0.050	<0.010	0.052	104	
Dichloromethane	80.610	ND δ10	θ ^C δ10		0.050	<0.010	0.036	72	
1,2-Dichloropropane	80.δ10	θ.δ ₁₀	₩ ^D δ10		0.050	<0.010	0.055	110	
1,3-Dichloropropylene	80.610	θ ^D δ10	ND δ10		0.155	<0.010	0.158	102	
1,1,2,2-Tetrachloroethane	80.610	ND δ10	ŊD. 610		0.100	<0.010	0.098	98	
1,1,1,2-Tetrachloroethane	8º. 610	θ.δ ₁₀	θ [.] δ10			<0.010		-	
Tetrachloroethylene	θ.δ ₁₀	θ.δ ₁₀	0.610		0.100	<0.010	0.098	98	
1,1,1-Trichloroethane	ND δ10	₩Dδ10	ND. 0.610		0.050	<0.010	0.080	160	
1,1,2-Trichloroethane	θ ⁵ δ10	θ <u>.</u> δ10	₩D.δ10		0.155	<0.010	0.158	102	
Trichloroethylene	δ ^D δ10	θ ^D δ10	ŊD.δ10		0.050	<0.010	0.050	100	
Trichlorofluoromethane	θ [.] δ ₁₀	₩ ⁰ δ10	ზ ^ე გ ₁₀			<0.010			
Trichloropropase	8 ⁰ δ10	შ ^ი გ10	NDδ10			<0.010			
Vinyl chloride	β ^D .δ10	θ.δ ₁₀	₩ ^ე გეე			<0.010			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No.	36546-9
Client	Field Sample No. 1	-FCD2-SB3-SS5-10-ITC
Project AF Plant 42 IRP-II	Date Collected	4-11-86
Client No.	Date Received	4-15-86
Laboratory Supervisor Approval:	Date Analyzed	4-23-86
	QC Report No.	8010-24
Sample Matrix:		
<pre>/_/ Water (ug/L)</pre>	Dilution Factor	N/A
<u>/X / Spil (ug/g)</u>	*Moisture	
/_/ Other		
Spike Source		

	С	oncentrati	on	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy\methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromotenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromsferm	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carpon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				<u> </u>
Chlorcethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibnomoch1cromethane	0.010	ND<0.010				1

IJ

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB3-SS5-10-170

	Concentration			Retenti	·	
Сотроила	Det Lim	Column 1	Column 2	Column 1	Column 2	Nutes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dicnlorcethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dishloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010		- - -		
Dickloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichlorcethane	0.010	ND<0.010				
1.1.2-Inionloncethane	0.010	ND<0.010				
Trichlorgethylene	0.010	ND<0.010				
Trionlorofluoromethane	0.010	ND<0.010				
Enich Comophopane	0.010	ND<0.010				
vinyl oblebide	0.010	ND<0.010				

^{100 -} This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

20 000 40.		-	ab Jame IC	110.	30340 3	
Client		F	iela Sampl	e No 1-FCD	02-SB3-SS10	-30-IT
Project AF Plant 42 IRP-II	[D	ate Collec	ted	4-11-86	·
Client No.		Date Received			4-15-86	
Laboratory Supervisor Approva	11:	٥	ate Analyz	ed	4-21-86	<u>; </u>
	_	Q	C Report N	io	8010-24	
Sample Matrix:						
Water (ug/L)			lilution Fa		N/A	
<u>x</u> / Soni (ug/g)		*M	loisture _			
Other						
Spike Source					 	
I	C	oncentrati	on	Retenti	on Time	
l Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chioride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromograplonomethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
5rcmomethane	0.010	ND<0.010				
Carpon tethachloride	0.010	ND<0.010	<u> </u>			<u> </u>
Chiondade :aldenyde	0.010	ND<0.010				
Chichal	0.010	ND<0.010				<u> </u>
Cricropenzene	0.010	ND<0.010	<u> </u>			1
Chionoethane	0.010	ND<0.010				<u>i</u>
Cnloroform	0.010	ND<0.010				<u> </u>
1-Chloronexans	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Crioromethane	0.010	ND<0.010				ļ
Chloromethyl methyl ether	0.010	ND<0.010			ļ	<u> </u>
Chiorotoluene	0.010	ND<0.010				
Conceptanionemathans	1 0 0:0	NO20 010			1	

Engineening Scherce Pade 8

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

1-FCD2-S53-SS10-30-100

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	<u>botes</u>
Diprompmethane	0.010	ND<0.010				
Dichionodifiuonomethane	0.010	ND<0.010				
1.1-Dichiorcethane	0.010	ND<0.010				
1,2-Dichlordethane	0.010	ND<0.010				
li,i-Dranionaethylene	0.010	ND<0.010				
trans-1,2-atonlonoetnylenc	0.010	ND<0.010				
Dishlonomethane	0.010	ND<0.010				
1,2-Drenjonopropane	0.010	ND<0.010				
1,3-Bronloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachionoethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
i,i,i-Trion`shsethane	0.010	ND<0.010				
1,1.2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Interlorofluororethans	0.010	ND<0.010				l
Trichleropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No	36546-10 Dublicate
Client	Field Sample No. <u>1</u>	-FCD2-SB3-SS10-30-ITC
Project AF Flant 42 IRP-II	Date Collected	4-11-86
Client No.	Date Received	4-15-86
Laboratory Supervisor Approval:	Date Analyzed	4-21-86
	QC Report No.	8010-24
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		·
Spike Source		

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chlorcethoxy)methane	0.010	ND<0.010				
Bis(2-chlcroisopropyl)ether	0.010	ND<0.010				<u> </u>
Bromobenzene	0.010	ND<0.010				
Brcmodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chloropenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chlorcethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				<u> </u>
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

Duplicate 1-FCD2-SB3-SS10-30-170

	<u>Co</u>	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Compression	0.010	ND<0.010					
Dianiancaifluonomethane	0.010	ND<0.010					
1,1-Dichlordethare	0.010	ND<0.010					
1,2-Dichlorcethane	0.010	ND<0.010					
1,1-01c longethylene	0.010	ND<0.010					
thans-1,2-dichloroethylene	0.010	ND<0.010					
Disnishomethane	0.010	ND<0.010					
11.2-Chonionophopare	0.010	ND<0.010					
1,3-Dranionophop.iene	0.010	ND<0.010					
101,201-Tethacrioncethane	0.010	ND<0.010					
iviviv2-Tetrach oncethane	0.010	ND<0.010					
jetnam immoetn <u>, ene</u>	0.010	ND<0.010					
1,1,1-Invanishaethane	0.010	ND<0.010					
1 1,1-immaniondernand	0.010	ND<0.016					
. In the Panagers . Lene	0.010	ND<0.010					
Inter the filtrometrage	0.010	ND<0.016					
, immonisma <u>phymane</u>	0.010	ND<0.010					
	0.010	ND<0.010					

Mile Tris compound was not detected; the limit of detection for this analysis is easition for the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No	36546-11 5	Spike
Client	Field Sample No. 1	-FCD2-SB3-SS10-30	0-170
Project AF Plant 42 IRP-II	Date Collected	4-11-86	
Client No.	Date Received	4-15-86	
Laboratory Supervisor Approval:	Date Analyzed	4-21-86	
	QC Report No.	8010-24	
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		
/_/ Other			
Spike Source			

	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010					
Bis(2-Chloroethoxy)methane	0.010					
Bis(2-chloroisopropyl)ether	0.010					
Bromobenzene	0.010					
Bromodichloromethane	0.010	0.053		14.6		
Bromoform	0.010	0.041		19.9		
Bromomethane	0.010					
Carbon tetrachloride	0.010	0.055		14.2		
Chloroacetaldehyde	0.010					
Chloral	0.010					
Chlorobenzene	0.010	0.051		24.7		
Chloroethane	0.010					
Chloroform	0.010	0.052		11.8		<u> </u>
1-Chlorohexane	0.010					
2-Chloroethyl vinyl ether	0.010					
Chloromethane	0.010					
Chloromethyl methyl ether	0.010					
Chlorotoluene	0.010					
Dibromochloromethane	0.010	0.158		17.3		

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Spike 1-FCD2-SB3-SS10-30-ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010						
Dichlorodifluoromethane	0.010						
1,1-Dichioroethane	0.010	0.052		10.7			
1,2-Dichioroethane	0.010	0.051		12.6			
1,1-Dichloroethylene	0.010	0.026		9.7			
trans-1,2-dichioroethylene	0.010	0.052		11.5			
Dichloromethane	0.010	0.036		7.1			
1,2-Dichloropropane	0.010	0.055		16.0			
1,3-Dichloropropylene	0.010	0.158		16.2			
1,1,2,2-Tetrachloroethane	0.010	0.098		22.2			
1,1,1,2-Tetrachloroethane	0.010						
Tetrachloroethylene	0.010	0.098		22.2			
1,1,1-Trichloroethane	0.010	0.080		13.8			
1,1,2-Tricn?oroethane	0.010	0.159		17.3			
Trichloroethylene	0.010	0.050		16.8			
TrionTorofluoromethane	0.010						
Trichloropropane	0.010						
Vinyl chloride	0.010						

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No.	36546-7
Client	Field Sample No. 1	-FCD2-SB3-SS14-50-ITC
Project <u>AF Plant 42 IRP-II</u>	Date Collected	4-11-86
Client No.	Date Received	4-15-86
Laboratory Supervisor Approval:	Date Analyzed	4-21-86
	QC Report No.	8010-24
Sample Matrix:		
<u>/</u> / Water (ug/L)	Dilution Factor	N/A
<u>/X_</u> /_Soil (ug/g)	*Moisture	ş
// Other		
Spike Source		

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chlorcethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				<u> </u>
Bromoform	0.010	ND<0.010				
Bromomethane	0.016	ND<0.010				<u> </u>
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.013				1
Chloromethyl methyl ether	0.010	ND<0.010				
Chicrotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB3-SS14-50-ITC

	Concentration			Retenti	· · · · · · · · · · · · · · · · · · ·	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

 $^{{\}tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36546-6
Client	Field Sample No.	1-FCD2-SB4-SS2-2.5-ITC
Project AF Plant 42 IRP-II	Date Collected	4-12-86
Client No.	Date Received	4-15-86
Laboratory Supervisor Approval:	Date Analyzed	4-21-86
	QC Report No	8010-24
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Scil (ug/g)	*Moisture	9
/_/ Other		
Spike Source		

	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Nc+es
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroiscpropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chloropenzene	0.010	ND<0.010				
Chicroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chiorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ethen	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromoch oromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB4-SS2-2.5-ITC

	Concentration			Retenti		
Cempouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichloroaifluonomethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.01C				
1,2-Dichloroethard	0.010	ND<0.010				
1,1-Dignionoethylene	0.010	ND<0.010				
trans-1,2-dichloroetrylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachlorcetnane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroetnane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichlocopropane	0.010	ND<0.010		<u> </u>		· · · · · · · · · · · · · · · · · · ·
Vinyl enlorise	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No.	56394	Lab Sample No	36546-8
Client		Field Sample No.	1-FCD2-SB4-SS5-10-ITC
Project AF Plant	42 IRP-II	Date Collected	4-12-86
Client No		Date Received	4-15-86
Laboratory Supervise		Date Analyzed	4-23-86
		QC Report No	8010-24
Sample Matrix:			
/_/ Water (ug/L)		Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)		*Moisture	9
<u>/</u> / Other			
Spike Source			

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				<u> </u>
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				<u> </u>
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB4-SS5-10-ITC

	Concentration			Retenti		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Cipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-D-chloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachlorcethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroetnylene	C.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.025		13.3		
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichiorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

 $^{{\}tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		L	ab Sample	No	<u> 36546-8</u>		
Client		۶	ield Sampl	e No. <u>1-FC</u>	D2-SB4-SS10	1-30-1TC	
Project <u>AF Plant 42 IRP-II</u>		מ	4-12-86				
Client No.		D	ate Receiv	ed	4-15-86		
Laboratory Supervisor Approva	11:		ate Analyz	ed	4-21-86		
		Q	C Report N	lo	8010-24		
Sample Matrix:							
<u>/_</u> / Water (ug/L)			ilution Fa				
<u>/X</u> / Soil (ug/g)		*M	loisture				
/_/ Other							
Spike Source			· · · · · · · · · · · · · · · · · · ·				
	С	oncentrati	on	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010					
Bis(2-Chloroethoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010					
Bromomethare	0.010	ND<0.010					
Carbon tetrachlorida	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Chicrcethane	0.010	ND<0.010					
Chloroform	0.010	NO<0.010				<u> </u>	
1-Chlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromet are	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010					
Dibromochloromethane	0.010	ND<0.010					

Continued

Dibromochloromethane

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

1-FCD2-SB4-SS10-30-170

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	<u> </u>
Diphomomethane	0.010	ND<0.010				
Dichlerogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dronioncethane	0.010	ND<0.010				
1,1-Dishlordethylene	0.010	ND<0.015				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Drom lonomethane	0.010	ND<0.010				
1,2-Dichiphophopane	0.010	ND<0.010				
1,3-Dichionophopylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroetnane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
1,1,1-Trichlorcethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloncethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichlonophopane	0.010	ND<0.010				
Viny) chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Jop No. 56394		L	ab Sample	No.	36546-7	
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB5-SS2-	2.5-ITC
Project <u>AF Plant 42 IRP-II</u>		D	ate Collec	ted	4-12-86	
Client No.	·	D	ate Receiv	ed	4-15-86	···-
Laboratory Supervisor Approva	il:	Date Analyzed 4-23-86				
	_	Q	C Report N	o	8010-24	
Sample Matrix:						
<pre>/ Water (ug/L)</pre>		מ	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	loisture			9
// Otner						
Spike Source						
		oncentrati	on	Retenti	on Time	Ţ
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetalgehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chlorcethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

0.010

0.010

0.010

0.010

0.010

0.010

Continued

Dibromochloromethane

1-Chlorohexane

Chloromethane

Chlorotoluere

2-Chloroethyl vinyl ether

Chloromethy' methyl ether

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB5-SS2-2.5-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
Dichlorodiflucromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				-,,
1,2-Dichioroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichlorophopane	0.010	ND<0.010				
1,3-Dichioropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.034		13.3		
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichiorofiuoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

 $^{{\}tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No	56394	Lab Sample No	36546-6
Client	· · · · · · · · · · · · · · · · · · ·	Field Sample No.	1-FCD2-SB5-SS5-10-ITC
Project AF Plan	t 42 IRP-II	Date Collected	4-12-86
Client No.		Date Received	4-15-86
Laboratory Superv	ison Approval:	Date Analyzed	4-23-86
		QC Report No	8010-24
Sample Matrix:			
<u> </u>	L)	Dilution Factor _	N/A
$\frac{1}{2}$ / Soft (ug/g)	*Moisture	%
<u>/</u> / Other			
Spike Source			

	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chioroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chlcroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorchexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

1-FCD2-SB5-SS5-10-1TC

· -	Concentration			Retenti		
	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
u Digramamethane <u></u>	0.010	ND<0.010				
	0.010	ND<0.010				
/i-Dishippemane	0.010	ND<0.010				
յն։ՉԷնիցինդութ երց ը» և <u>Մ</u>	0.010	ND<0.010				
11 1 Pranionieto lene	C.010	ND<0.010				
. thans -1,45 displongerry/sie	0.010	ND<0.010				
. Cranighamethane	0.010	ND<0.010				
. 190-Char Chh <u>aphapank</u>	0.010	ND<0.010				
1 <u>193 Granianaphap, lene</u>	0.010	ND<0.010				
i luuul-Tetnauniphoethane	0.010	ND<0.010				
	0.010	ND<0.010				
<u>lethaonioncethylene</u>	0.010	ND<0.010				
i.i.i.i-Intonioncetrane	0.010	0.025		13.3		
CHinton Innontrane	0.010	ND<0.010				
_ intomiongers_lere	0.010	ND<0.010				
j jan shafilogometmane	0.010	ND<0.010				
. This ar Tankansaa ene	0.010	ND<0.010				· · · · · · · · · · · · · · · · · · ·
_yany: orion:del	0.010	ND<0.010				

 $[\]gamma_{\rm e}$ - This compound was not detected; the limit of detection for this analysis is less tran the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

Lab Sample Nos. 1-FCD2-SB5-SS5-10-ITC Duplicates 36546-8, 36546-18 Spike36546-19			Q	QC Report No. 8020-22			020-22			
			٥	Date Analyzed 5-14-86						
			L	Laboratory Supervisor Approval:						
Sample Matrix:										
<u>/</u> / Water (u	ug/L)			D	ilution	Facto	r	N/A		
<u>/X /</u> Soil (u	ig/g)			≭M	oisture	<u> </u>				*
// Other										_
Spike Source _	10 ppb 602 s	td.								
						<u> </u>				Ĭ
				plicat			Spike R			
Compou	ına	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Benzene		ND< 0.005		ND< 0.005		0.050	<0.005	0.035	70	
201120110		ND<	ND<	ND<		0.000	10.000	0.003		
Chlorobenzene		0.005	1 1	0.005		0.053	<0.005	0.038	72	
		ND<	ND<	ND<						1
1,2-Dichlorobe	enzene	0.005	0.005	0.005		0.054	<0.005	0.038	70	<u> </u>
		ND<	ND<	ND<						
1,3-Dichlorobe	enzene	0.005	0.005	0.005		0.056	<0.005	0.040	71	
		ND<	ND<	ND<						
1,4-Dichlorobe	enzene	0.005	0.005	0.005		0.053	<0.005	0.039	74	
		ND<	ND<	ND<						i
Ethyl benzene		0.005	0.005	0.005		0.054	<0.005	0.039	72	
i		ND<	ND<	ND<						ì
Toluene		0.005	0.005	0.005		0.058	<0.005	0.037	64	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	L. 7 L	ND<					.0.005			!
Xylenes (Dimet	iny i benzene)	0.005					<0.005			
										

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		Lab Sample No. 36546-7						
Client		Field Sample No. 1-FCD2-SB3-SS5-10-I						
Project AF Plant 42 IRP-I	<u> </u>	Date Collected 4-11-86						
Client No.	·	D	ate Receiv	ed	4-14-86			
Laboratory Supervisor Approv		٥	ate Analyz	ed <u>¢ 4</u>	¢ 4-25-86, 5-1-86			
	_	Q	C Report N	o	8020-22			
Sample Matrix:								
<pre>// Water (ug/L)</pre>		Dilution Factor <u>¢ Conc., 1:1002</u>						
<u>/X</u> / Soil (ug/g)		*M	loisture			%		
// Other	" -							
Spike Source		· · · · · · · · · · · · · · · · · · ·						
	Co	Concentration			Retention Time			
Compound	Det Lim	Column 1	Column 2		Column 2	Notes		
Benzene	0.005	ND<0.005						
Chlorobenzene	0.005	ND<0.005						
1,2-Dichlorobenzene	5.0	ND<5.0						
1,3-Dichlorobenzene	5.0	ND<5.0						
1,4-Dichloroberzene	5.0	ND<5.0						
Ethyl benzene	0.005	NC<0.005						
Toluene	0.005	ND<0.005						
Yulenes (Dimethyl henzene)								

¢ - Dilutions were made in order to quantitate and due to matrix effects.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u> Client		L	ap Sample	No	36546-9 . 1-FCD2-SB3-SS10-30-IT				
		F	ield Sampl	e No. <u>1-F</u>					
Project AF Plant 42 IRP-II		D	ate Collec	ted	4-11-86 4-14-86 ¢ 4-25-86, 5-1-86				
Cinent No.		D	ate Receiv	ed					
Laboratory Supervisor Approva		D	ate Analyz	ed <u>c 4-</u>					
	_	Q	C Report N	o	8020-22				
Sample Matrix:									
/ Water (ug/L)		Dilution Factor <u>¢ Conc., 1:100</u>							
<u>/X</u> ∕ Soil (ug/g)		*M	oisture	·					
/_/ Otner									
Spike Source									
	1			<u> </u>		!			
	Co	ncentratio	n	Retention Time					
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes			
Benzene	0.005	ND<0.005							
Chlorobenzene	0.005	ND<0.005							
1,2-Dichloropenzene	0.5	ND<0.5							
1,3-Dichloropenzene (d)	0.5	ND<0.5							
1,4-Dichloropenzene (d)		ND<0.5							
Ethyl benzene	0.005	ND<0.005							
Toluene	0.005	ND<0.005							
Xylenes (Dimethyl benzene)	0.005	ND<0.005							

- (d) At this concentration the components co-elute. The amount reported is total.
- ¢ Dilutions were made in order to quantitate and due to matrix effects.
- ND This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. <u>56394</u>		Lab Sample No. <u>36546-8</u> Field Sample No. <u>1-FCD2-SB3-SS14-50-</u> I					
Client AF Plant 42 IRP-I		Date Collected4-11-86					
			4-11-86				
Laboratory Supervisor Approx	nt No.						
caboratory super visor Approv	u , .	Date Analyzed <u>4-25-86</u> QC Report No. <u>8020-22</u>					
Sample Matrix:		~	o Report 1	·	0020 22		
<pre>// Water (ug/L)</pre>		D	ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		*M	loisture				
// Otner							
Spike Source							
						1	
ì	Co	ncentratio	ın	Retenti	etention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
: i 1,2-Dichlorobenzene	0.005	ND<0.005					
1,3-Dichloropenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					

Xylenes (Dimethyl benzene) 0.005 ND<0.005</pre>

⁽d) - Compounds co-elute at this concentration. Amount reported is total.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		Lab Sample No. <u>36546-6, 36546-8</u> Field Sample No. <u>1-FCD2-SB4-SS2-2.5-IT</u>								
Client										
Project AF Plant 42 IRP-	II	*								
Client No.										
Laboratory Supervisor Appro										
•			C Report N							
Sample Matrix:			•							
// water (ug/L)			ilution Fa	ctor ¢ C	onc., 1:50	10				
/X / Soil (ug/g)			oisture _							
/_/ Other				-						
Spike Source										
						···				
	Co	ncentratio	n	Retention Time						
Compound		Column 1			Column 2	Notes				
Benzene	0.005	ND<0.005								
Chlorobenzene	0.005	ND<0.005				ļ				
1,2-Dichlorobenzene ç	0.50	0.5 ND< 0.005								
1,3-Dichlorobenzene ¢	0.50	0.5 ND< 0.005								
1,4-Dichioropenzene c	0.50	0.5 ND< 0.00 5								
Etnyl penzene	0.005	ND<0.005								
Toluene	0.005	ND<0.005				ļ				
Xylenes (Dimetnyl benzene) 0.00		ND<0.005								
		 	 		 	 				

c - Dilutions were made due to matrix effects.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics Sw Method 8020

ES Job No. 56394		L	ab Sample	No	36546-7	1
Client		F	ield Sampl	e No. <u>1-F</u>	CD2-SB4-SS	5-10-ITC
Project AF Plant 42 IRP-II	[ם	ate Collec	ted	4-12-86	
Client No.		D	ate Receiv	ed	4-14-86	· -
Laboratory Supervisor Approva		D	ate Analyz	ed	4-28-86	
	_	Q	C Report N	o	8020-22	
Sample Matrix:						
/ Water (ug/L)		ם	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		×M	oisture		<u> </u>	
/_/ Other					·	
Spike Source						
	1			<u> </u>		<u>'</u>
l i	Co	ncentratio	n	Retenti	ion Time	
Compound		Column 1			Column 2	Notes
Benzene	0.005	ND<0.005				
Chiorobenzene	0.005	ND<0.005				
1,2-Dicnloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
10146.16	0.003	N.B. to to to				
Xylenes (Dimetnyl benzene)	0.005	ND<0.005				ļ
	<u> </u>					

ES Job No. <u>56394</u>		Lab Sample No. 36546-5							
Client	-	F	ield Sampl	e No. <u>1-F</u>	CD2-SB4-SS	0-30-ITC			
Project <u>AF Plant 42 IRP-I</u>	<u> </u>								
Client No.		Date Received 4-14-86							
Laboratory Supervisor Approve		Date Analyzed 4-25-86							
		QC Report No. 8020-22							
Sample Matrix:									
\angle _/ Water (ug/L)		D	ilution Fa	ctor	N/A				
<u>/X</u> / Soil (ug/g)						%			
<u>/</u> / Other									
Spike Source									
	Co	ncentratio	n	Retenti	on Time				
Compound	Det Lim	Column 1	Column 2		Column 2	Notes			
Benzene	0.005	ND<0.005							
Chlorobenzene	0.005	ND<0.005				···			
1,2-Dichlorobenzene	0.005	ND<0.005							
1,3-Dichlorobenzene	0.005	ND<0.005							
1,4-Dichlorobenzene	0.005	ND<0.005							
Ethyl benzene	0.005	ND<0.005							
Toluene	0.005	ND<0.005							
Xylenes (Dimethyl benzene)	0.005	ND<0.005							

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		Ĺ	ab Sample	No	36546-7	
Client		F	ield Sampl	e No. <u>1-F</u>	CD2-SB5-SS	2-2.5-IT
Project AF Plant 42 IRP-I		D	ate Collec	ted	4-12-86	
Client No.		D	ate Receiv	ed	4-14-86	
Laboratory Supervisor Approva	al:				-28-86, 5-	1-86
		Q	C Report N	o	8020-22	
Sample Matrix:						
<pre>/_/ Water (ug/t)</pre>		D	ilution Fa	ctor	¢ Conc., 1	:5000
/X / Soil (ug/g)						
// Other						
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compound					Column 2	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	5.0	ND<5.0				
1,3-Dichloropenzene	5.0	ND<5.0				
1,4-Dichloropenzene	5.0	ND<5.0				
1,4-b (Cirioi obelizene	3.0	NDC5.0				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
						i
	 	i			 	1

^{¢ -} Dilutions of sample were due to matrix effects.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		Lab Sample No. 36546-8						
Client		F	ield Sampl	e No. <u>1-F</u>	CD2-SB5-SS	5-10-ITC		
Project AF Plant 42 IRP-I	Ī	D	ate Collec	ted	4-12-86			
Client No.				ed				
Laboratory Supervisor Approva		D	ate Analyz	ea	4-28-86			
		Q	C Report N	o	8020-22			
Sample Matrix:								
/_/ Water (ug/L)		0	ilution Fa	ctor	N/A			
<u>/X</u> / Soni (ug/g)								
/ Other								
Spike Source								
;	Co	ncentratio	n	Retenti	on Time			
Compound		Column 1				Notes		
Benzene	0.005	ND<0.005						
Cnloropenzene	0.005	ND<0.005						
1,2-Dichlorobenzene	0.005	ND<0.005						
1,3-Dichloropenzene	0.005	ND<0.005						
1,4-Dichloropenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	ND<0.005						

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No	36546-1	8 Duc.
Client					CD2-SB5-SS	5-10-ITC
Project <u>AF Plant 42 IRP-I</u>	I	D	ate Collec	ted	4-12-86	
Client No.		D	ate Receiv	ed	4-14-86	
Laboratory Supervisor Approve		D	ate Analyz	ed	5-14-86	
		Q	C Report N	lo	8020-22	
Sample Matrix:						
\angle / Water (ug/L)		D	ilution Fa	ictor	N/A	
<pre>/X / Soil (ug/g)</pre>		*M	oisture _	- 		· · · · · · · · · · · · · · · · · · ·
<u>/</u> / Other						
Spike Source						
	Co	ncentratio	n	Retenti	ion Time	
Compound		Column 1			Column 2	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloroperzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichlonopenzene	0.005	ND<0.005				
Etnyl penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
xylenes (Dimethyl benzene)	0.005					
				-		
					j	

NC - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. <u>56394</u>	·	L	ab Sample	No	36546-1	9 Spike
Client		F	ield Sampl	e No. 1-F	CD2-SB5-SS	5-10-ITC
Project <u>AF Plant 42 IRP</u>		D	ate Collec	ted	4-12-86	
Client No.						
Laboratory Supervisor Appre						
		Q	C Report N	lo	8020-22	
Sample Matrix: // Water (ug/L) /X / Soil (ug/g)						a
/ <u>/</u> / Other			oisture			1
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2			Notes
Benzene	0.005	Date Collected 4-12- Date Received 4-14- Date Analyzed 5-14- QC Report No. 8020- Dilution Factor N/A *Moisture Concentration Retention Time t Lim Column 1 Column 2 Column 1 Column				
: 		1	1			1

1	Co	ncentratio	·n	 Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes_
Benzere	0.005	0.035		2.5		·
Chlonobenzene	0.005	0.038		7.8		
1,2-Dichlorobenzene	C.0C5	0.038		14.3		
1,3-Bichloropenzene	0.005	0.040		12.8		
1,4-Dichlorobenzene	0.005	0.039		12.7		
Ethyl benzene	0.005	0.039		7.3		
Toluene	0.005	0.037		4.8		
Xylenes (Dimethyl benzene)	0.005					



ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Engineering Science 57 Executive Park S., Suite 590 Atlanta, GA 30329-2213 October 8, 1986

Attn: M.A. Guthrie

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April 14, 1986

56394

36555/rjc

REVISED REPORT

Nine (9) soil samples.

Sample Identification	<u>Date</u>	Time
1-FCD2-SB5-SS10-30-ITC	4-12-86	1030
1-FCD2-SB5-SS15-10-ITC	4-12-86	1030
1-FCD2-SB6-SS3-5-ITC	4-12-86	1230
1-FCD2-SB6-SS8-20-ITC	4-12-86	1230
1-FCD2-SB7-SS5-10-ITC	4-14-86	0900
1-FCD2-SB7-SS10-30-ITC	4-14-86	0900
1-FCD2-SE7-SS14-50-ITC	4-14-86	0900
1-FCD2-SB7-SS15-30-ITC	4-14-86	0900
1-FCD2-SB7-SS18-70-ITC	4-14-86	0900

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

In addition, the samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

The samples were also extracted according to EPA Method 3550 and analyzed for Total Petroleum Hydrocarbons (TPH) according to EPA Method 418.1. The sample results are listed in Table I.

William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director

April 30, 1986 JN: 36555 - Page 2

Table I

Sample Identifications	Total Petroleum Hydrocarbons <u>Micrograms/gram</u>
1-F0D2-SB6-SS3-5-ITC	4800
1-FCD2-SE7-SS18-70-ITC	ND<2
1-FCD2-SB7-SS5-10-ITC	8200
1-FCD2-SB5-SS15-10-ITC	ND<2
1-FCD2-SB7-SS10-30-ITC	240
1-FCD2-SB7-SS14-50-ITC	2000
1-F002-SB5-SS10-30-ITC	2
1-FCD2-SB7-SS15-30-ITC	220
1-FCD2-SB6-SS8-20-ITC	ND<2
1-FCD2-SB6-SS8-20-ITC Duplicate	ND<2
1-FCD2-SB6-SS8-20-ITC Spike	31
Spike Concentration	33

Percent Recoverry - 94%

Relative Percent Difference - N/A

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 1-FCD2-SB7-SS18-70-ITC	QC Report No	8010-26	
Duplicates <u>36555-14, 36555-</u> 15	Date Analyzed	4-24-86	
Spike <u>36555-16</u>	Laboratory Superv	isor Approval:	
Sample Matrix:		. <u></u>	
// Water (ug/L)	Dilution Factor _	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		%
/_/ Other			
Spike Source			

		Duplicates		Spike Recovery					
Compound	Blank	Cl	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<						
Benzyl chloride	0.010	0.010				<0.010			
Bis(2-Chloroethoxy)methane	₩ ^D δ10	₩º. 610	ND 610			<0.010			
Bis(2-Chloroisopropyl)ether	₩ ^D .610	0.610	80.610			<0.010			
Bromobenzene	₩ ^D δ10	ND δ10	₩D. 610			<0.010			
Bromodichloromethane	₩D.610	₩D. 610	₩D. 610		0.050	<0.010	0.054	108	
Bromoform	80.610	θ.δ10	₩D.610		0.050	<0.010	0.047	94	
Bromomethane	θ. δ10	ŊD ₆₁₀	₩D.610			<0.010			
Carbon tetrachloride	80.610	8 ^D δ10	₩D.610		0.050	<0.010	0.051	102	
Chloroacetaldehyde	₩º.δ10	₿ <u>0</u> б10	₩0.610			<0.010			
Chloral	80.810	θ <u>.</u> δ10	₩º. 610			<0.010			
Chlorobenzene	80.610	ND δ10			0.050	0.010	0.044	88	
Chloroethane	₩ ^D .δ10	θ <u>.</u> δ10	0 .δ10			<0.010			
Chloroform	80.δ10	θ ^D δ10	₩D. 610		0.050	<0.010	0.052	104	
1-Chlorohexane	8º.δ10	8º.610	შე _გ ე			<0.010			
2-Chloroethyl vinyl ether	8º.δ10	წ ^ე გე	θ.δ10			<0.010			
Chloromethane	₩ ^D .510	ND 610	80.610			<0.010			
Chloromethyl methyl ether	ND δ10	80.δ10	შ ^ი გე			<0.010			
Chlorotoluene	θ ⁰ .δ10	₩ ^D δ10	000 0000 0000			<0.010			
Dibromochloromethane	₩º. 610	Ŋ <u>D</u> δ10	80.610		0.155	<0.010	0.160	103	

continued on next page

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB7-SS18-70-ITC

		Duplicates							
Compound	Blank	C1	C2	RPD	SA	SR	Recover SSR	PR	Notes
	ND<	ND<	ND<			ND<			
Dibromomethane	0.010		0.010			0.010			
Dichlorodifluoromethane	შ ^ე გე	0.610	0.δ ₁₀			θ.δ ₁₀			
1,1-Dichloroethane	θ ⁰ .δ10	θ.δ10	ND δ10		0.050	ND δ10	0.051	102	
1,2-Dichlorcethane	80.610	ND δ10	ND 610		0.050	NID -		106	
1,1-Dichloroethylene	ND δ10	გე _{ბ10}	₩ ^D б10		0.050	ND δ10	0.044	88	
trans-1,2-dichloroethylene	80.δ10	80.δ10	80.610		0.050			108	
Dichloromethane	ND δ ₁₀	₩ ^D δ10	ŊD. 610		0.050	ND δ10	0.047	94	
1,2-Dichloropropane	ND δ10	θ ^D δ10	ND δ10		0.050	ND -		98	
1,3-Dichloropropylene	θ ^D δ10	ND δ10	80.610		0.155	ND δ10	0.160	103	
1,1,2,2-Tetrachioroethane	80.610	ND δ10	80. 8. 8. 10		0.100	θ.δ10	0.095	95	
1,1,1,2-Tetrachloroethane	80.δ10	ND δ10	ND δ10			ND δ10			
Tetrachloroethylene	შეგე მეგე	ND δ10	ND δ10		0.100	^{ტე} გე0	0.095	95	
1,1,1-Trichloroethane	8 ^D .δ10	θ [.] δ10	80.610		0.050	ND δ10	0.042	84	
1,1,2-Trichioroethane	შ ^ი გენ	θ ^D δ10	₩ ^D \do		0.155	NC δ10	0.160	103	
Trichloroethylene	θ.δ ₁₀	ND გეე	ŊD. δ10		0.050	θ.δ10	0.052	104	
Trichlorofluoromethane	80.610	ND 0.δ10	₩D. 610			ეე 0.010			
Trichloropropane	შ ^ი გენ	θ ^D .δ10	ND δ10			შ ^ე გე			
Vinyl chloride	θ <u>.</u> ό10	8 ^D δ10	8.610			80.δ10			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>	Lab Sample No	36555-6
Client	Field Sample No.	1-FCD2-SB5-SS10-30-ITC
Project AF Plant 42 IRP-II	Date Collected _	4-12-86
Client No.	Date Received	4-14-86
Laboratory Supervisor Approval:	Date Analyzed _	4-24-86
	QC Report No	8010-26
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	9
/_/ Other		
Spike Source		

	С	oncentrati	on	Retenti	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010				<u> </u>	
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				<u> </u>	
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromopenzene	0.010	ND<0.010		-		<u> </u>	
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010					
Bromomethane	0.010	ND<0.010					
Carbon tetrachlorade	0.010	ND<0.010					
Chloroacetaldenyde	0.010	ND<0.010				ļ	
Chloral	0.010	ND<0.010					
Chloropenzene	0.010	ND<0.010					
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010				<u></u>	
Dipromochloromethane	0.010	ND<0.010				<u> </u>	

Continued

1-FCD2-SB5-SS10-30-ITC

	Co	ncentratio	n .	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dicaloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				· · · · · ·
1,1,1-Trichloroethane	0.010	0.018		13.4		
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloriae	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36555-7
Client	Field Sample No.	1-FCD2-SB5-SS15-10-ITC
Project <u>AF Plant 42 IRP-II</u>	Date Collected _	4-12-86
Client No.	Date Received	4-14-86
Laboratory Supervisor Approval:	Date Analyzed	4-24-86
	QC Report No	8010-26
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		
	Concentration Re	etention Time

	С	oncentrati	on	Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	YD<0.010				
Chloroform	0.010	MD<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-S85-SS15-10-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroetnane	0.010	ND<0.010				
1.1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				- <u></u> -
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.024		13.4		
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	36555-8
Client	Field Sample No.	1-FCD2-SB6-SS3-5-ITC
Project AF Plant 42 IRP-II	Date Collected _	4-12-86
Client No.	Date Received _	4-14-86
Laboratory Supervisor Approval:	Date Analyzed _	4-24-86
	QC Report No.	8010-26
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	9
/_/ Other		
Spike Source		

	С	oncentrati	on	Retention Time		<u> </u>
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				ļ
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

1-FCD2-SB6-SS3-5-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromometnane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				·
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetracnioroethylene	0.010	ND<0.010				
1,1,1-Tricnloroetnane	0.010	0.027		13.4		
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Tricnloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ES Job No. <u>56394</u>		Ĺ	ab Sample	No. <u>3655</u>	5-9	
Client	···-	F	ield Sampl	e No. <u>1-FC</u>	D2-SB6-SS8-	-30-ITC
Project AF Plant 42 IRP-II			ate Collec	ted	4-12-86	10
Client No.		0	ate Receiv	ed	4-14-86	
Laboratory Supervisor Approva	i):	0	ate Analyz	ed	4-24-86	
		Q	C Report N	0	8010-26	
Sample Matrix:						
/_/ Water (ug/L)			ilution Fa			
<u>/X / Soil (ug/g)</u>		*M	loisture _			
Other						
Spike Source						
	С	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				<u> </u>
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				ļ
Carbon tetrachloride	0.010	ND<0.010				<u> </u>
Chloroacetaldenyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chloropenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Cnloroform	0.010	ND<0.010				
1-Cnloronexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				_
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.10	ND<0.010				1

0.010 ND<0.010

Continued

Dipromochloro ethane

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB6-SS8-30-ITC

	Co	Concentration			Retention Time		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorogifluoromethane	0.010	ND<0.010					
1,1-Dichloroethane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	ND<0.010					
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachioroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		Ĺ	ab Sample	No. 3655	5-10			
Client	·	Field Sample No. <u>1-FCD2-SB7-SS5-1</u>						
Project AF Plant 42 IRP-II		D	ate Collec	ted	4-14-85			
Client No.		D	ate Receiv	ed	4-14-86			
Laboratory Supervisor Approva	1:	D	ate Analyz	ed	4-24-86			
			C Report N					
Sample Matrix:								
\angle / Water (ug/L)		D	ilution Fa	ictor	N/A			
<u>/X</u> / Spil (ug/g)		*M	loisture _					
<u>/</u> / Other								
Spike Source								
		oncentrati	on	Retent	on Time	1		
Compound	Pot lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzyl chloride	0.010	ND<0.010	COTUMIT 2	CO TUBIN 1		Notes		
Bis(2-Chlorcethoxy)methane	0.010	ND<0.010				 		
Bis(2-chloroisopropyl)ether	0.010	ND<0.010						
Bromobenzene	0.010	ND<0.010						
Bromodichlonomethane	0.010	ND<0.010						
Bromoform	0.010	ND<0.010						
Bromomethane	0.010	ND<0.010						
Carbon tetrachloride	0.010	ND<0.010						
Chicroacetaldenyde	0.010	ND<0.010				<u> </u>		
Chloral	0.010	ND<0.010						
Chlorobenzene	0.010	ND<0.010						
Chloroethane	2.010	ND<0.010						
Chloroform	0.010	ND<0.010						
1-Chlorohexane	0.010	ND<0.010						
2-Chlorcethyl vinyl ether	0.010	ND<0.010						
Chloromethane	0.010	1D<0.010						
Chloromethyl methyl ether	0.010	ND<0.010				-		
Chlorotoluene	0.010	ND<0.010						

Continued

Dibromochloromethane 0.010 ND<0.010 ---

1-FCD2-SB7-SS5-10-ITC

	Co	Concentration		Retention Time		_
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichioroetnane	0.010	ND<0.010				
1,2-Dichloroetnane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010	-			
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroetnane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Tricnloroetname	0.010	ND<0.010				
Trionloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichlorophopane	0.010	ND<0.010				
Vinyî chloride	0.010	ND<0.010				

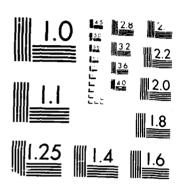
ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No	36555-11
Client	Field Sample No.	1-FCD2-SB7-SS10-30-ITC
Project AF Plant 42 IRP-II	Date Collected	4-14-86
Client No.	Date Received	4-14-25
Laboratory Supervisor Approval:	Date Analyzed _	4-24-86
·	QC Report No	8010-25
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration		Retenti	-		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chlorcethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND <u.010< td=""><td></td><td></td><td></td><td></td></u.010<>				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloreform	0.010	ND<0.010				-1
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				i - •
Chloromethyl methyl ether	0.010	ND<0.010				
Chlaratoluene	0.010	ND<0.010				
Dibremochloromethane	0.010	ND<0.010				

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INSTALLATION RESTORATION PROGRAM PHASE 2 CONFIRMATION/QUANTIFICATION STAG (U) ENGINEERING-SCIENCE INC PASADENA CALIF 2 F33613-84-D-4483 AD-A198 943 20 FEB 87 F/G 24/7 UNCLASSIFIED



MICROCOPY RESOLUTION TEST CHART
NATIONA RISELAL CANDARDS 1963 a

1-FCD2-SB7-SS10-30-ITC

		ncentratio	n	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				·
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36555-12
Client	Field Sample No.	1-FCD2-SB7-SS14-50-ITC
Project AF Plant 42 IRP-II	Date Collected _	4-14-86
Client No.	Date Received _	4-14-86
Laboratory Supervisor Approval:	Date Analyzed _	4-24-86
	QC Report No	8010-26
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	%
/_/ Other		
Spike Source		

	С	oncentrati	on	Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

1-FCD2-SB7-SS14-50-ITC

	Co	ncentratio	n	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichioropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				-
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.013		13.4		
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36555-13
Client	Field Sample No.	1-FCD2-SB7-SS15-30-ITC
Project <u>AF Plant 42 IRP-II</u>	Date Collected _	4-14-86
Client No.	Date Received	4-14-86
Laboratory Supervisor Approval:	Date Analyzed	4-24-86
	QC Report No.	8010-26
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	9
/_/ Other		
Spike Source		
	Concentration Re	etention Time

	Concentration			Retenti	on Time	1
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010			<u></u>	
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexare	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB7-SS15-30-ITC

	Со	ncentratio	n	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		L	ab Sample	No. <u>3655</u>	5-14	
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB7-SS18	-70-ITC
Project AF Plant 42 IRP-II		a	ate Collec	ted	4-14-86	
Client No.		D	ate Receiv	ed	4-14-86	
Laboratory Supervisor Approva		D	ate Analyz	ed	4-24-86	
· ,		Q	C Report N	o	8010-26	
ample Matrix:						
/_/ Water (ug/L)			ilution Fa			
<u>/X</u> / Soil (ug/g)		*M	loisture			
// Other						
Spike Source						
	C	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzere	0.010	ND<0.010				

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

ND<0.010

- **-** -

_ _ _

0.010

0.010

0.010

0.010

0.010

0.010

0.010

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Continued

Dibromochloromethane

Chloroethane

1-Chlorohexane

<u>Chloromethane</u>

<u>Chlorotoluene</u>

2-Chloroethyl vinyl ether

Chloromethyl methyl ether

Chloroform.

1-FCD2-SB7-SS18-70-ITC

	Со	ncentratio	n	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichioroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichioropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				<u> </u>
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010	~			

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	36555-15	Duplicate	
Client	Field Sample No.	1-FCD2-SB7-SS	518-70-ITC	
Project AF Plant 42 IRP-II	Date Collected _	4-14-86		
Client No.	Date Received _	4-14-86		
Laboratory Supervisor Approval:	Date Analyzed _	4-24-86		
	QC Report No	8010-26		
Sample Matrix:				
<pre>// Water (ug/L)</pre>	Dilution Factor	N/A		
/X / Soil (ug/g)	*Moisture		مِي	
/_/ Other				
Spike Source				

	С	oncentrati	on	Retenti		
Compound	Det Lim	m Column 1 Column 2 (Column 1 Column 2		Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010			<u></u>	
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010		 -		
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

Duplicate 1-FCD2-SB7-SS18-70-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1 Column 2 C		Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				-
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				·
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		L	ab Sample	No. <u>3655</u>	5-16	Spike		
Client		F	ield Sampl	e No. <u>1-FC</u>	1-FCD2-SB7-SS18-70-I			
Project AF Plant 42 IRP-II		D	ate Collec	ted	4-14-86			
Client No.		D	ate Receiv	ed	4-14-86			
Laboratory Supervisor Approva	1:		4-24-86					
		Q	8010-26					
Sample Matrix:								
/ Water (ug/L)	Dilution Factor N/A							
<u>/X</u> / Soil (ug/g)		×M	oisture			\$		
/_/ OtherSpike Source								
Spike Source								
	C	oncentrati	on	Retenti	etention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzyl chloride	0.010	ND<0.010						
Bis(2-Chloroethoxy)methane	0.010	ND<0.010						
Bis(2-chloroisopropyl)ether	0.010	ND<0.010						
Bromobenzene	0.010	ND<0.010						
Bromodichloromethane	0.010	0.054		14.2		<u> </u>		
Bromoform	0.010	0.047		19.4				
Bromomethane	0.010	ND<0.010						
Carbon tetrachloride	0.010	0.051		13.8				
Chloroacetaldehyde	0.010	ND<0.010						
Chloral	0.010	ND<0.010						
Chlorobenzene	0.010	0.044		24.2				
Chloroethane	0.010	ND<0.010						
Chloroform	0.010	0.052		11.4				
1-Chlorohexane	0.010	ND<0.010						
2-Chloroethyl vinyl ether	0.010	ND<0.010						
Chloromethane	0.010	ND<0.010						
Chloromethyl methyl ether	0.010	ND<0.010						
Chlorotoluene	0.010	ND<0.010						

0.010 0.160

Continued

Dibromochloromethane

Spike 1-FCD2-SB7-SS18-70-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	0.051		10.3		
1,2-Dichloroethane	0.010	0.053		12.2		
1,1-Dichloroethylene	0.010	0.044		9.2		
trans-1,2-dichloroethylene	0.010	0.054		11.1		·
Dichloromethane	0.010	0.047		6.6		
1,2-Dichloropropane	0.010	0.049		15.5		<u>.</u>
1,3-Dichloropropylene	0.010	0.160		16.9		
1,1,2,2-Tetrachloroethane	0.010	0.095		21.8		
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	0.095		21.8		
1,1,1-Trichloroethane	0.010	0.042		13.4		
1,1,2-Trichloroethane	0.010	0.160		16.9		
Trichloroethylene	0.010	0.052		16.4		
Tricnlorofluoromethane	0.010	ND<0.010				
Trichioropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Lab Sample Nos. 1-FCD2-SB5-SS15-10-ITC

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Metnod 8020

QC Report No. 8020-21

Duplicates <u>36555-7, 36555-9</u>)		D	ate Ana	lyzed		4-22-8	36	
Spike 36555-10 Laboratory Supervisor Approval:									
Sample Matrix:									
// Water (ug/L)			D	ilution	Facto	r	N/A		
/X / Soil (ug/g)			*M	oisture					<u>*</u>
Spike Source 10.0 ppb 602	Std.								
		Du	plicat	es	S	nike R	ecovery	,	
Compound	Blank			RPD	SA	SR		PR	Notes
	ND<	ND<	ND<			ND<			
Benzene	0.005	0.005	0.005		0.05	0.005	0.04	80	
	ND<	ND<	ND<			ND<			
Chlorobenzene	0.005		0.005		0.05		0.04	80	
	ND<	ND<	ND<	i		ND<			
1,2-Dichlorobenzene	0.005		0.005		0.05	0.005	0.04	80	
	ND<	ND<	ND<]	ND<		100	
1,3-Dichloropenzene	0.005		0.005		0.05	0.005	0.05	83	
	ND<	ND<	ND<	j		ND<			
1,4-Dichlorobenzene	0.005		0.005		0.05		0.04	80	
F. h 7 h	ND<	ND<	ND<		0.05	ND<	0.04		
Ethyl benzene	0.005		0.005		C.05		0.04	80	
T-1	ND<	ND<	ND<		0 05	ND<	0.04	80	
Toluene	0.005		0.005		0.05	0.005	0.04	-65	
V1 (Disease)	ND<	ND<	ND<			ND<			
Xylenes (Dimethyl benzene)	0.005	0.005	0.005			0.005		 	

ES Job No56394	Lab Sample No	36555-9
Client	Field Sample No.	1-FCD2-SB5-SS10-30-ITC
Project AF Plant 42 IRP	Date Collected	4-12-86
Client No.	Date Received _	4-14-86
Laboratory Supervisor Approval:	Date Analyzed	4-17-86
	QC Report No.	
Sample Matrix:	-	
// Water (ug/L)	Dilution Factor _	N/A
/X / Soil(ug/g)	*Moisture	9
/_/ Other		
Spike Source		

	Co	ncentratio	n	Retenti	_	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnlorobenzene	0.005	ND<0.005		~		
1,2-Dichloropenzene	0.005	0.046		14.50		
1,3-Dichloropenzene	0.005	ND<0.005				
1.4-Dichlorobenzene	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ES JOD NO	 	Lab Sample No					
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB5-SS1	5-10-IT	
Project AF Plant 42 IRP		D	ate Collec	ted	4-12-86		
Client No.		D	ate Receiv	ed	4-14-86	·	
Laboratory Supervisor Approva	al:	ם	ate Anaiyz	ed	4-17-86		
	_	Q	C Report N	o	8020-21		
Sample Matrix:							
// Water (ug/L)		D	ilution Fa	ctor	N/A		
/X / Soil(ug/g)							
// Other							
Spike Source							
		ncentratio	n	Petenti	on Time		
Compound		Column 1			Column 2	Notes	
Benzene	0.005	ND<0.005					
Cnlorobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichlorobenzene	0.005	ND<0.005					
1,4-bichibi obenzene	0.003	1000.003					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					
	<u> </u>						
	1						

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Spike Sourc	ce				ncentratio			Retenti	on Time		-
<pre>Sample Matrix:</pre>					*M	oisture _			N/A		- - -
	Supervisor	Approval	l : -						4-17-86 8020-21		_
Client No.	AF Plant			_	ם	ate Rece	ive	d	4-12-86		_
Client	56394				F	ield Samp	ple	No. 1-FC	36555-8 D2-SB5-SS3	-5-ITC	_

	Co	ncentratio	n	Retenti	on Time	Notes
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

 $[\]mbox{ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		L	ab Sample	No	36555-7	
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB6-SS8	-20-ITC
Project AF Plant 42 IRP		Đ	ate Collec	ted	4-12-86	
Client No.		Ε	ate Receiv	ed	4-14-86	
Laboratory Supervisor Approve			ate Analyz	ed	4-18-86	
		Ç	C Report N	lo	8020-21	
Sample Matrix:						
/ Water (ug/L)			ilution Fa	ctor	N/A	
<pre>/X / Soil(ug/g)</pre>		*M	loisture _			
// Other	- 					
Spike Source						
	T			T		 1
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichiorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
	1	1	1	1		,

ES Job No56394		Lab Sample No36555-9					
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB7-SS5	-10-ITC	
Project AF Plant 42 IRP			ate Collec	ted	4-14-86		
Client No.		0	ate Receiv	ed	4-14-86		
Laboratory Supervisor Approve		Date Analyzed 4-18-86					
			8020-21				
Sample Matrix:							
// Water (ug/L)		E	ilution Fa	ctor	N/A	·	
<u>/X</u> / Soil(ug/g)		*Moisture					
// Otner						- · · · · ·	
Spike Source							
	Co	ncentratio	าก	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichlorobenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					

 $^{{\}tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No	36555-8	
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB7-SS1	0-30-ITC
Project AF Plant 42 IRP		0	ate Collec	ted	4-12-86	
Client No.			ate Receiv	ed	4-14-86	
Laboratory Supervisor Approv	aī:	Date Analyzed 4-18-86				
		Q	C Report N	lo	8020-21	
Sample Matrix:						
// Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil(ug/g)		*M	oisture		 	9
// Other						
Spike Source			·····			
	Co	ncentratio	'n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyî benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. <u>56394</u>		L	ab Sample	No	36555-6	
Client	 	F	ield Sampl	e No. <u>1-FC</u>	D2-SB7-SS1	4-50-I
Project AF Plant 42 IRP		Date Collected 4-14-86				
Client No.		Date Received 4-14-86				
Laporatory Supervisor Approv		D	ate Analyz	ed	4-22-86	
		Q	C Report N	o	8020-21	
Sample Matrix:						
/ Water (ug/L)			ilution Fa			
<pre>/X_/ Soil(ug/g)</pre>		*M	loisture _			
/ Other						
Spike Source						
2		ncentratio			on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlanenanzana	0.005	ND<0.005				
Chloropenzene	0.003	100.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichiorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	0.024		4.8		
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
		 	<u> </u>	 		1

ES Job No56394		L	ab Sample	No	36555-7	
Client			ield Sampl			5-30-I7
Project AF Plant 42 IRP			ate Collec			-
Client No.		ם	ate Receiv	ed	4-14-86	
Laboratory Supervisor Approv		Date Analyzed 4-22-86				
		Q	C Report N	o	8020-21	
Sample Matrix:						
/_/ Water (ug/L)		D	ilution Fa	ctor	N/A	
<pre>/X / Soil(ug/g)</pre>		*M	loisture			
/_/ Other						
Spike Source					·	
	Co	ncentratio	on .	Retenti	on Time	
Compound	Det Lim		Column 2			Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		L	ab Sample	No	36555-8	
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB7-SS1	8-70-ITC
Project AF Plant 42 I		D	ate Collec	ted	4-14-86	
Client No		D	ate Receiv	ed	4-14-86	
Laboratory Supervisor Appr		D	ate Analyz	No. 36555-8 e No. 1-FCD2-SB7-SS1 ted 4-14-86 red 4-14-86 red 4-22-86 lo. 8020-21 rector N/A Retention Time Column 1 Column 2		
		Q	C Report N	o	8020-21	
Sample Matrix:		n	ilution Ea	o+on	Ni / A	
<pre>/_/ Water (ug/L) /X / Soil(ug/g)</pre>						
/_/ Other						
Spike Source						
	Co	Concentration			on Time	
Compound						Notes
Benzene	0.005	ND<0.005	~	~		
Cnloropenzene	0.005	ND<0.005		~		
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Xylenes (Dimethyl benzene) | 0.005 | ND<0.005

ES Job No. <u>56394</u>		Ĺ	ab Sample	No	36555-9	Duplicat		
Client		Field Sample No. <u>1-FCD2-SB5-SS15-10-1</u>						
Project AF Plant 42 IRP		D	ate Collec	tea	4-12-86			
Client No.		Date Received 4-14-86						
Laboratory Supervisor Approva	al:	D	ate Analyz	ed	4-22-86			
		Q	C Report N	o	8020-21			
Sample Matrix:								
<u>/</u> / Water (ug/L)		D	ilution Fa	ctor	N/A			
<pre>/X / Soil(ug/g)</pre>			oisture _			9		
// Other								
Spike Source	·							
	Co	ncentratio	n	Retenti	on Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzene	0.005	ND<0.005						
Chlorobenzene	0.005	ND<0.005						
1,2-Dichlorobenzene	0.005	ND<0.005						
1,3-Dichlorobenzene	0.005	ND<0.005						
1,4-Dichloropenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	ND<0.005						
	-							
İ	1		I .	l .	1	1 .		

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		Lab Sample N		No	36555-10	<u>Spi</u> ke
Client			ield Sampl	e No. <u>1-FC</u>	D2-SB5-SS1	5-10-ITC
ProjectAF Plant 42 IRP		Date Collected 4-12-86				
Client No.			ate Receiv			
Laboratory Supervisor Approva			ate Analyz	ed	4-22-86	
		Q	C Report N	o	8020-21	
Sample Matrix:						
/_/ Water (ug/L)		0	ilution Fa	ctor	N/A	
<pre>/X / Soil(ug/g)</pre>		**	loisture			
// Other						
Spike Source		·	···			
	1				 	
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2		Column 2	Notes
Benzene	0.005	0.040		2.6		
Chlorobenzene	0.005	0.040		7.9		
1,2-Dichlorobenzene	0.005	0.040		14.4		
1,3-Dichlorobenzene	0.005	0.05		12.9		
1,4-Dichloropenzene	0.005	0.040		12.71		
Ethyl benzene	0.005	0.040		7.3		
Toluene	0.005	0.040		4.8		
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

 $^{{\}tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ENGINEERING SCIENCE

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ANALYTICAL SERVICES



17605 - Birling AB. • Chritis Calrima 90701 • 213-921-9851 - 714-523-9260

CERTIFICATE OF ANALYSIS

Engineering Science

October 9, 1986

57 Executive Park St., Suite 590

Atlanta, GA 30929-2213

Attn: M.A. Guthrie

April 17, 1986

56394

36574/rjc

REVISTED REPORT

Eight (8) samples labeled:

Sample Number	Date	Time
1-FCD2-SB8-SS5-10-ITC	4-15-86	0930
1-FCD2-SB8-SS10-30-ITC	4-15-86	0930
1-FCD2-SB8-SS14-50-ITC	4-15-86	0930
1-FCD2-SB9-SS5-10-ITC	4-16-86	0830
1-FCD2-SB9-SS8-20-ITC	4-16-86	0830
1-FCD2-SB9-SS11-35-ITC	4-16-86	0830
1-FCD2-SB9-SS14-50-ITC	4-16-86	0830
1-FCD2-SB9-SS18-70-ITC	4-16-86	0830

The samples were analyzed for total petroleum hydrocarbons (TPH) by infrared spectroscopy technique (EPA procedure 418.1). The results are listed in table I.

The samples were also analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010. The results are listed on the Halogenated Volatile Organics Summary sheets.

Also, the samples were analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the Aromatic Volatile Organics Summary sheets.

William P. 7 William P. Fassinger

Chemist

Richard L. Merrell Laboratory Director Date of Analysis: 4-29-86

<u>Table I</u> <u>Total Petroleum Hydrocarbons</u>

Sample Identification	Parts per million
1-FCD2-SB8-SS5-10-ITC	3200
1-FCD2-SB8-SS10-30-ITC	8
1-FCD2-SB8-SS14-50-ITC	3
1-FCD2-SB9-SS5-10-ITC	6
1-FCD2-SB9-SS8-20-ITC	3
1-FCD2-SB9-SS11-35-ITC	3
1-FCD2-SB9-SS14-50-ITC	3
1-FCD2-SB9-SS14-50-ITC Dup.	3
1-FCD2-SB9-SS14-50-ITC Spike	22
1-FCD2-SB9-SS18-70-ITC	3
Spike concentration	23

Relative Percent Difference - 0.00% Percent Recovery - 83% THIS PAGE INTENTIONALLY LEFT BLANK

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	<u>.</u>	L	ab Sample	No	36574-5		
Client		Field Sample			1-FCD2-SB9-SS11-35-IT		
Project AF Plant 42 IRP II		0	ate Collec	ted	4-16-86		
Client No.		Date Received _					
Laboratory Supervisor Approva	1:	٥	ate Analyz	ed	4-25-86		
		Q	C Report N	o	8010-26		
Sample Matrix:							
<pre>/_/ Water (ug/L)</pre>			ilution Fa				
/X / Soil (ug/g)		*M	loisture	·· 	N/A		
/_/ Other							
Spike Source	·						
	С	oncentrati	on	Retenti	on Time		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloriae	0.010	ND<0.010					
Bis(2-Chloroethoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromopenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010					
Bromomethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Cnloroethyl vinyl ether	0.010	ND<0.010					
Chlorome+hane	0.010	ND<0.010					
Chiorometnyl methyl ether	0.010	ND<0.010				<u> </u>	
Chlorotoluene	0.010	ND<0.010					

0.010 ND<0.010

Continued

Dipromochioromethane

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample No: 1-FCD2-SB9-SS11-35-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroetnane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				İ
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-gionloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetracnioroethane	0.010	ND<0.010				
Tetrachlorcetnylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36574-6	
Client	Field Sample No.	1-FCD2-SB9-SS14-50-IT	C
Project AF Plant 42 IRP II	Date Collected	4-16-86	
Client No.	Date Received	4-17-86	
Laboratory Supervisor Approval:	Date Analyzed	4-25-86	
WPTarry	QC Report No	8010-26	
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor _	N/A	_
/X / Soil (ug/g)	*Moisture	N/A	_%
/_/ Other			_
Spike Source			_

	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				<u> </u>
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample No: 1-FCD2-SB9-SS14-50-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dicnlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichioroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-TetrachToroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichioroethane	0.010	ND<0.010				ļ
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichioropropane	0.010	ND<0.010				
Vinyl onloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36574-7	
Client	Field Sample No.	1-FCD2-SB8-SS5-10-IT	<u>.C</u>
Project AF Plant 42 IRP II	Date Collected	4-15-86	
Client No.	Date Received	4-17-86	
Laboratory Supervisor Approval:	Date Analyzed	4-25-86	
[N/2 mmg	QC Report No.	8010-26	
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor _	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture	N/A	%
/_/ Other		- ··	
Spike Source			

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample No.: 1-FCD2-SB8-SS5-10-ITC

	Concentration			Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				İ
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.014		13.4		
1,1,2-Trichlorcethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichloroflucromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.G10				
Vinyl chloride	0.010	ND<0.010				<u> </u>

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36574-8	
Client	Field Sample No.	1-FCD2-SB8-SS14-50-IT	<u>c</u>
Project AF Plant 42 IRP II	Date Collected	4-15-86	
Client No.	Date Received	4-17-86	
Laboratory Supervisor Approval:	Date Analyzed	4-25-86	
Withamya	QC Report No	8010-26	
Sample Matrix:			
// Water (ug/L)	Dilution Factor _	N/AN/A	
<u>/X</u> / Soil (ug/g)	*Moisture	N/A	_%
/_/ Other			
Spike Source			

	C	Concentration		Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample No.: 1-FCD2-SB8-SS14-50-IIC

	Co	Concentration		Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodiflucromethane	0.010	ND<0.010				
1,1-Dichioroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-gichloroethylene	0.010	ND<0.010				ļ
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.017		13.5		
1,1,2-Trichioroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36574-9	
Client	Field Sample No.	1-FCD2-SB9-SS5-10-ITC	
Project AF Plant 42 IRP II	Date Collected	4-16-86	
Client No.	Date Received	4-17-86	
Laboratory Supervisor Approval:	Date Analyzed	4-25-86	
WHanne	QC Report No.	8010-26	_
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor	N/A	_
<u>/X</u> / Soil (ug/g)	*Moisture	N/A	_%
/_/ Other			
Spike Source			_

	С	oncentrati	on	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				1
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				<u> </u>
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				<u> </u>
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				1
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				<u> </u>
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample No.: 1-FCD2-SB9-SS5-10-ITC

	Co	ncentratio	n	Retenti	on Time	
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroetnylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichioropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010				
Tetrach]croethy]ene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Inichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyî chloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36574-10	
Client	Field Sample No. <u>1</u>	-FCD2-SB9-SS8-20-IT	<u>c </u>
Project AF Plant 42 IRP II	Date Collected	4-16-86	
Client No.	Date Received	4-17-86	
Laboratory Supervisor Approval:	Date Analyzed	4-25-86	
Withenny	QC Report No.	8010-26	_
Sample Matrix:			
/_/ Water (ug/l)	Dilution Factor	N/A	
/X / Soil (ug/g)	*Moisture	N/A	%
/_/ Other			
Spike Source			

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND <g.010< td=""><td></td><td></td><td></td><td></td></g.010<>				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				<u></u>
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				<u> </u>
Chloroethane	0.010	ND<0.010				<u> </u>
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				<u> </u>
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample No.: 1-FCD2-SB9-SS8-20-ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010					
1,1-Dichloroetname	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Dichloroethylene	0.010	ND<0.010					
trans-1,2-dichlordethylene	0.010	ND<0.010					
Dicnioromethane	0.010	ND<0.010					
1.2-Dichioropropane	0.010	ND<0.010					
1,3-Dichioropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachloroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	ND<0.010					
1,1,2-Trichloroethane	0.010	ND<0.010	~				
Intenioroethylene	0.010	ND<0.010					
Irichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36574-11
Client	Field Sample No.	1-FCD2-SB9-SS18-70-ITC
Project AF Plant 42 IRP II	Date Collected	4-16-86
Client No.	Date Received	4-17-86
Laboratory Supervisor Approval:	Date Analyzed	4-25-86
W. Firm	QC Report No.	8010-26
Sample Matrix:		
<u>/</u> / Water (ug/L)	Dilution Factor _	N/A
/X / Soil (ug/g)	*Moisture	N/A %
/_/ Other		
Spike Source		

	Concentration		Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample No.: 1-FCD2-SB9-SS18-70-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-gichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				ļ <u> </u>
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichioroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No	Lab Sample No	36574-12	
Client	Field Sample No.	1-FCD2-SB8-SS10-30-IT	<u>c</u>
Project AF Plant 42 IRP II	Date Collected	4-15-86	
Client No.	Date Received	4-17-86	
Laboratory Supervisor Approval:	Date Analyzed	4-25-86	
WP Faringer	QC Report No.	8010-26	
Sample Matrix:			
<u>/</u> / Water (ug/L)	Dilution Factor _	N/AN/A	
<u>/X</u> / Soil (ug/g)	*Moisture	N/A	_%
// Other			
Spike Source			

	С	oncentrati	on	Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010					
Bis(2-Chloroethoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010			<u></u>		
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010				<u> </u>	
Bromomethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Ch1oroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010					
Dibromochloromethane	0.010	ND<0.010					

Continued

Engineering Science Page 18

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Field Sample No.: 1-FCD2-SB8-SS10-30-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroetrylene	0.010	ND<0.010				
trans-1,2-gichloroethylere	0.010	ND<0.010				
Dichioromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichlorophopylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.019		13.4		
1,1,2-Trichloroethane	0.010	ND<0.010				
Trachloroethylene	0.010	ND<0.010				
Trichiorofiuoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ES Job No56394		Lab Sample No36574-7					
Client		Date Collected			. 1-FCD2-SB8-SS10-30-ITC 4-15-86 4-17-86		
Project AF Plant 42 IRP II							
Cirent No.							
Laboratory Supervisor Approva					5-5-86 8020-22		
		Ç	C Report N	o.			
Sample Matrix:							
// Water (ug/L)		0	dilution Fa	ctor	N/A		
/X / Soil (ug/g)			loisture				
/ Other							
Spike Source							
	·			·			
	Co	ncentratio	ın.	Patenti	Retention Time		
Compound			Column 2			Notes	
Benzene	0.005	ND<0.005					
Chloropenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005			 		
1,3-Dichlorobenzene	0.005	ND<0.005					
	0.005	ND 10 005					
1,4-Dichlorobenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
	1	1.510.000	<u> </u>				
Xvlenes (Dimethyl benzene)	0.005	ND<0.005					

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		Lab Sample No. 36574-11					
Cinent					. <u>1-FCD2-SB8-SS14-50-ITC</u> 4-15-86		
Project <u>AF Plant 42 IRP II</u>							
Client No.	Date Received						
Laboratory Supervisor Approva		Date Analyzed					
•		Q	C Report N	o	8020-22		
Sample Matrix:							
<u>/</u> / Water (ug/L)			ilution Fa	ctor	N/A		
		*M	loisture		N/A		
/ / Otner							
Spike Source							
	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
1	Concentration			Petenti	etention Time		
Compound			Column 2			Notes	
Benzene	0.005	ND<0.005					
Chloropenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1 2 2 2 3 3 3 1 0 3 2 5 1 2 5 1 6	0.000	112 (0.003				 	
1,3-Dich oropenzene	0.005	ND<0.005					
1,4-Dichlorobenzene	0.005	ND<0.005					
Etnyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xvienes (Dimethy) benzene)							

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		Lab Sample No. 36574-6					
Client		Date Collected			4-17-86		
Project <u>AF Plant 42 IRP II</u>							
Client No.							
Laboratory Supervisor Approve							
			C Report N				
Sample Matrix:							
<u>/</u> / Water (ug/L)			ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		*P	loisture		N/A		
/_/ Otner			_				
Spike Source							
	· · · · · · · · · · · · · · · · · · ·					· · · · · · · · · · · · · · · · · · ·	
	Co	Concentration Re			etention Time		
Compound			Column 2			Notes	
Benzene	0.005	ND<0.005			<u> </u>		
Cnlorobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	1000.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)		ND<0.005				†	
Ay iches to inecity i belizere)	7 0.000	1112 10.000	 	 	 	+	

 $[\]star$ - If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394	Lab Sample No	36574-5
Client		1-FCD2-SB9-SS8-20-ITC
Project AF Plant 42 IRP II		4-16-86
Client No.	Date Received _	4-17-86
Laporatory Supervisor Approva		5-5-86
	QC Report No.	8020-22
Sample Matrix:		
<pre>// Water (ug/L)</pre>	Dilution Factor	N/A
<u>/X /</u> Soil (ug/g)	*Moisture	N/A 9
// Otner		
Spike Source		
	Concentration Re	
Compound	Det Lim Column 1 Column 2 Colu	mn 1 Column 2 Notes 🗼

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnloropenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimetnyl benzene)	0.005	ND<0.005				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		Lab Sample No. 36574			36574-11	11	
Client		F	ield Sampl	e No. <u>1-FC</u>	D2-SB9-SS1	1-35-ITC	
Project AF Plant 42 IRP II					4-16-86		
Client No.		Date Received 4-17-8			4-17-86		
Laboratory Supervisor Approva		D	ate Analyz	ed	5-2-86		
		Q	C Report N	o	8020-22		
Sample Matrix:							
// Water (ug/L)		۵	ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		*M	oisture		N/A		
/_/ Other							
Spike Source					_		
	· · · · · · · · · · · · · · · · · · ·					· · · · · · · · · · · · · · · · · · ·	
	0-			Datast:	T:	-	
Compound		ncentratio	Column 2		on Time	Notes	
Johnpouria	000 21111	00.00.00	00,0,,,,,		00.02	11000	
Benzene	0.005	ND<0.005					
Chloropenzene	0.005	ND<0.005					
1							
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
1,4 Biolifor Obelizerio	0.005	10.000	 				
Ethyl benzene	0.005	ND<0.005		~			
Toluene	0.005	ND<0.005					
13.43.76	1						
Xylenes (Dimetnyl benzene)	0.005	ND<0.005					
1	i]			1	ł	

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394	Lab Sample No	36574-12
Client	Field Sample No.	1-FCD2-SB9-SS14-50-ITC
Project <u>AF Plant 42 IRP II</u>		4-16-86
Client No	Date Received _	4-17-86
Laboratory Supervisor Approval:	Date Analyzed	5-2-86
	QC Report No.	8020-22
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	N/A 9
// Other		
Spike Source		
<u> </u>		
	Concentration Re	etention Time

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No	36574-10	
Client		F	ield Sampl	e No. 1-FC	D2-SB9-SS1	8-70-IFC
Project AF Plant 42 IRP II		ס	ate Collec	ted	4-16-86	
Client No.		D	ate Receiv	eá	4-17-86	
Laboratory Supervisor Approva		D	ate Analyz	ed	5-1-86	
	_	Q	C Report N	o	8020-22	
Sample Matrix:						
/ / Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture		N/A	
/_/ Other						
Spike Source						
	r					, ,
	Co	ncentratio	n	Retenti	on Time	
Compound			Column 2		Column 2	Notes
Benzene	0.005	ND<0.005				
Cnlaropenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichloropenzene	0.005	ND<0.005				
	1	- 11				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
		l	1			1

 $[\]star$ - If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		Lab Sample No. ¢ 36574-5, 36574-8						
Cisent		F	ield Sampl	e No. 1-F0	:D2-SB8-SS5	-10-ITC		
Project AF Plant 42 IRP II		D	ate Collec	ted	4-15-86			
Client No.		D	ate Receiv	ed	4-17-86			
Laboratory Supervisor Approva		ם	ate Analyz	ed	5-6-86			
		Q	C Report N	0.	8020-22			
Sample Matrix:								
<pre>∠ _/ Water (ug/L)</pre>		0	ilution Fa	cter	¢ 1:1000,	Conc.		
<u>/X</u> / Soil (ug/g)			loisture					
/_/ Other								
Carro Courco			= <u>-:</u>					
						·		
	Co	ncentratio	on.	Retenti	etention Time			
Compound			Column 2			Notes		
Banzana	0.005	ND 40 005						
Benzene	0.005	ND<0.005						
Chloropenzene	0.005	ND<0.005						
1,2-Dichlorobenzene	0.005	ND<0.005						
1,12000	1							
1,3-Dichlorobenzene	0.005	8.4		12.9				
1,4-Dichloropenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	2.4		4.8				
10.100.116	1 0.005			7.0	 	 		
Xvlenes (Dimethy) penzene)	0.005	ND<0.005				1		

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

178 H Park Caucata (1991) 18 September 2 (1

Engineering Science 57 Executive Park So. Suite 590 Atlanta, GA 30329-2213 October 9, 1986

Attn: M.A. Guthrie

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April 19, 1986

56394MAG

36608/rjc

REVISED REPORT

Ten (10) soil samples.

SAMPLE IDENTIFICATION	DATE	TIME
1-FCD2-SB11-SS1-3-ITC	4-16-86	1100
1-FCD2-SB12-SS1-3-ITC	4-16-85	1130
7-ERA2-SB5-SS5-10-ITC	4-17-86	0845
7-ERA2-SB5-SS10-30-ITC	4-17-86	0845
7-ERA2-SB5-SS14-50-ITC	4-17-86	0845
7-ERA2-SB5-SS20-80-ITC	4-17-86	0845
9-PWW2-SB1-SS1-3-ITC	4-17-86	1400
9-PWW2-SB2-SS1-3-ITC	4-17-86	1400
7-ERA2-S85-SS24-100-ITC	4-18-86	0800
7-ERA2-SB5-SS26-120-ITC	4-18-86	0800

Four of the samples were analyzed for purgeaple halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

Four of the samples were also analyzed for aromatic volatile organic compounds using a Texmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

Eight of the samples were analyzed for total petroleum hydrocarbons (TPH) by infrared spectroscopy technique (TPH, 418.1). The results are listed in Table I.

William P. Fassinger

Chemist

Eric W. Lindsay Laboratory Manager I Eng. Science M.A. Guthrie

October 9, 1985 UN: 36608 - Page 1

Two of the samples were analyzed for Oil and Grease by infrared spectroscopy technique (Sw 3550 followed by EPA procedure 413.2). The results are listed in Table II.

Two of the samples were analyzed for Phenol according to <u>Standard Methods for tree Examination of Water and Wastewater</u>, Methods 510A and 510C. The results are listed in the following summary sneets.

Table I

SAMPLE: ES Job No. 56394, AF Plant 42 IRP-II DATE OF ANALYSIS: 4-30-86

Sample Identification	Total Petroleum Avancoarbons (ug.g.
7-ERA2-SB5-SS26-120-ITC	114
7-ERA2-SB5-SS26-120-ITC Duplicate	137
7-ERA2-SB5-SS26-120-ITC Spike	160
Spike Concentration	25
7-ERA2-SB5-SS24-100-ITC	67 00
7-ERA2-SB5-SS5-10-ITC	3
7-ERA2-SB5-SS10-30-ITC	150 00
7-ERA2-SB5-SS14-50-ITC	3100
7-ERA2-SB5-SS20-80-ITC	160
1-FCD2-SE12-SS1-3-ITC	4
1-FCD2-SB11-SS1-3-ITC	17

Relative Percent Difference - 18%

Percent Recovery -138%

<u>Table II</u>

SAMPLE: ES Job No. 56394, AF Plant 42 IRP-II
DATE OF ANALYSIS: 4-30-86

Sample Identification	Total Petroleum Hydrocarbons (ugid)
9-PWW2-SB2-SS1-3-ITC	2
9-PWW2-SB1-SS1-3-ITC	3
9-PWW2-SB1-SS1-3-ITC Duplicate	4
9-PWW2-SB1-SS1-3-ITC Spike	22
Spike Concentration	25

Pelative Percent Difference - 29%

Percent Recovery - 77%

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Engineering Science

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ANALYTICAL RESULTS SUMMARY Environmental Quality Parameters

Page: 3 Report:

Laboratory Supervisor Approval: 6-001.99 Dilution Factor UC Report No. * Moisture Water (ug/L) Soil (ug/ml) Sample Matrix: Other)<u>X</u>) Project No.AF Plant 42 IRP-II Client No. Date Collected 4-17-86 Date Received 4-19-86 56394 ES Job No. Client

Field Sample No. Lab Sample	Lab Sample No.	Phenol		-			
9-PWW2-SB1-SS1- 3-ITC	36608-1	ND<0.24					
9-PW22-SB2-SS1- 3-IIC	36608-2	ND<0.24					: : :
F	1						
Uate Analyzed	a	4/21		-		 -	
Analytical Method	*	510A/ 510C		ļ			(

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

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Engineering-Science

Environmental Quality Parameters QUALITY CONTROL RESULTS SUMMARY

Page: 4 Report:

Dilution Factor *Moisture Water (ug/L) Soil (ug/g) // Other Spike Source(s) Sample Matrix:

/x/

QC Report No. 66700-9 Laboratory Supervisor Approval:

	Motes								
	PR	55							
ecover	SSR	1.1							
piked F	SA SR SSR	ND<							
S	SA	2							
tes	RPD	1 1							
uplica	C1 C2 RPD	ND< ND< 0.24 0.24							
10	12	ND<				!			
	Blank	1							
** Anal.		510A/510C							
	Date Anal.	4/21							
Sample Nos.	Spike	36608-4							
Laboratory ;	Duplicates Spike	36608-3							
Analyte	Metal	Phenol							

 $[\]star$ - If % moisture is reported, results ** are presented on a dry-weight basis.

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lap Sample Nos. 1-FCD2-SB12-SS1-3-ITC	QC Report No. <u>8010-27</u>
Duplicates <u>36608-6, 36608-9</u>	Date Analyzed <u>4-28-86</u>
Spike <u>36608-11</u>	Laboratory Supervisor Approval:
Sample Matrix:	
<u>/</u> / Water (ug/L)	Dilution Factor
<pre>/X / Soil (ug/g)</pre>	*Moisture%
<pre>/ / Otner</pre>	
Spike Source	

		Du	plicati	es		Spike	Recovery	,	
Compound	Blank	Cì	C2	RPD	SA	SR	SSR	PR	Notes
		ND<	ND<			-			
Benzyl chloride	<0.010					<0.010			
Bis(2-Cnloroethoxy)methane	<0.010					<0.010			
Bis(2-Chloroisopropyl)ether	<0.010	θ. δ ₁₀				<0.010			
Bromopenzene	<0.010					<0.010			
Bromogicnloromethane	<0.010	θ [.] δ10	θ.δ10		0.050	<0.010	0.048	96	
Bromoform	<0.010	ND 0.010	80. 0. 0. 0. 0. 0.0		0.050	<0.010	0.045	92	
Bromometnane	<0.010					<0.010			
Carbon tetrachloride	<0.010	θ.δ ₁₀	Ŋο _. δ10		0.050	<0.010	0.048	96	
Cnloroacetaldehyde	<0.010	ND-				<0.010			
Chloral	<0.010	ND δ10	θ ^D .δ10			<0.010			
Chiorobenzene	<0.010	^{Ŋე} გე	ND 610		0.050	<0.010	0.044	88	<u></u>
Cnloroethane	<0.010	₩D.δ1c	0.δ ₁₀			<0.010			
Cnloroform	<0.010	θ ^D δ10	ŊD.δ10		0.050	<0.010	0.049	98	
1-Cnlorohexane	<0.010	θ ⁰ .δ10	₩ ^D ð10			<0.010			
2-Chlorcethyl vinyl ether	<0.010	ND 610	₩ ^D δ10			<0.010			
Chloromethane	<0.010	ND δ10	ND δ10			<0.010			
Chloromethyl methyl ether	<0.010	ND δ10				<0.010			
Chiorotoluene	<0.010					<0.010			
Dibromochioromethane	<0.010	₩D.б10			0.155	<0.010	0.153	99	<u> </u>

continued on next page

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB12-SS1-3-ITC

		Du	plicate			Spike Re	ecovery	- A. <u>- EA F</u>	<u></u>
Compouna	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Dipromomethane	<0.010	ND< 0.010	ND< 0.010			<0.010			
Dichlorodifluoromethane	<0.010	Nº. 610	θ ^D δ10			<0.010			
1,1-Dicnloroethane	<0.010	ND δ10			0.050		0.048	96	
1,2-Dichloroethane	<0.010	0.610	₩ ^D .610		0.050	<0.010	0.051	102	
1,1-Dicnloroethylene	<0.010	ND δ10	შ ^ი გე		0.050	<0.010	0.039	78	
trans-1,2-gichloroethylene	<0.010	θ.δ ₁₀	შ ^ი გენ10		0.050	<0.010	0.047	94	
Dichloromethane	<0.010	ND δ.δ10	80.610		0.050	<0.010	0.047	94	
1,2-Dichloropropane	<0.010	ND δ10	ND δ10		0.050	<0.010	0.052	104	
1,3-Dichloropropylene	<0.010	ND δ.δ10	ND δ10		0.155	<0.010	0.153	99	
1,1,2,2-Tetrachioroethane	<0.010	ND δ10	ND δ10		0.100	<0.010	0.115	115	
1,1,1,2-Tetrachioroethane	<0.010	NDδ10	ND δ10			<0.010			
Tetrachloroethylene	<0.010	θ.δ ₁₀	NDδ10		0.100	<0.010	0.115	115	
1,1,1-Trichloroethane	<0.010	80.610	ND δ.δ10		0.050	<0.010	0.044	88	
1,1,2-Trichloroethane	<0.010	NDδ10	₩D. 610		0.155	<0.010	0.153	99	
Trichloroethylene	<0.010	ŊD δ10	θ ^D δ10		0.050	<0.010	0.048	96	
Trichlorofluoromethane	<0.010	θ ^D δ10	₩ ^D б10			<0.010			
Intentoropropane	<0.010	NO				<0.010			
Vinyl chloride	<0.010	ND δ10	θ.δ10			<0.010			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

 $^{{\}sf ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	36608-5
Client	Field Sample No. <u>1</u>	-FCD2-SB11-SS1-3-ITC
Project AF Plant 42 IRP-II	Date Collected	4-16-86
Client No.	Date Received	4-19-86
Laboratory Supervisor Approval:	Date Analyzed	4-28-86
	QC Report No.	8010-27
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	9
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB11-SS1-3-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluonometrane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethans	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
<u>Trichloroethylene</u>	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichioropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	36608-6
Client	Field Sample No.	1-FCD2-SB12-SS1-3-ITC
Project AF Plant 42 IRP-II	Date Collected	4-16-86
Client No.	Date Received	4-19-86
Laboratory Supervisor Approval:	Date Analyzed	4-28-86
	QC Report No	8010-27
Sample Matrix:		
<u>/_</u> / Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichlorcmethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

1-FCD2-SB12-SS1-3-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dicrloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichicromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichioropropane	0.010	ND<0.010				
Vinyī chīoride	0.010	ND<0.010				j

 ${\tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	36608-7
Client	Field Sample No. <u>9</u>	-PWW2-SB1-SS1-3-ITC
Project AF Plant 42 IRP-II	Date Collected	4-17-86
Client No.	Date Received	4-19-86
Laboratory Supervisor Approval:	Date Analyzed	4-28-86
	QC Report No.	8010-27
Sample Matrix:		
// Water (ug/L)	Dilution Factor	N/A
<pre>/X / Soil (ug/g)</pre>	*Moisture	9
/_/ Other		
Spike Source		·

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichlorcmethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaidehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				1
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

9-PWW2-SB1-SS1-3-ITC

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dicnloroethane	0.010	ND<0.010				
1,1-Dichlordethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachjoroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.011		13.4		
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No.	36608-8
Client	Field Sample No.	9-PWW2-SB2-SS1-3-ITC
Project AF Plant 42 IRP-II	Date Collected	4-17-86
Client No.	Date Received	4-19-86
Laboratory Supervisor Approval:	Date Analyzed	4-28-86
	QC Report No.	8010-27
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor _	N/A
/X / Soil (ug/g)	*Moisture	
// Other		
Spike Source		

	Concentration			Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

9-PWW2-SB2-SS1-3-ITC

	Concentration			Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichioropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachlorcethane	0.010	ND<0.010				
1,1,1,2-Tetrach oroethane	0.010	ND<0.010				
Tetracoloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichlorcethylene	0.010	ND<0.010				
Inschlorofluoromethane	0.010	ND<0.010				
Trichioropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36608-9 Ouplicate
Client	Field Sample No.	1-FCD2-SB12-SS1-3-ITC
Project AF Plant 42 IRP-II	Date Collected	4-16-86
Client No.	Date Received	4-19-86
Laboratory Supervisor Approval:	Date Analyzed	4-28-86
	QC Report No.	8010-27
Sample Matrix:		
// Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010_	ND<0.010				<u> </u>
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				1
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Duplicate 1-FCD2-SB12-SS1-3-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				<u> </u>
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichioropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Intonionoethylene	0.010	ND<0.010				
Trasplorofluoromethane	0.010	ND<0.010				
Trach onophopane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

^{*}D - Into compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36608-11 Spike	<u> </u>	
Client	Field Sample No.	1-FCD2-SB12-SS1-3-ITC		
Project AF Plant 42 IRP-II	Date Collected	4-16-86		
Client No.	Date Received	4-19-86		
Laboratory Supervisor Approval:	Date Analyzed	4-28-86		
	QC Report No	8010-27	_	
Sample Matrix:				
/_/ Water (ug/L)	Dilution Factor _	N/A	_	
<pre>/X / Soil (ug/g)</pre>	*Moisture		<u>_</u> %	
// Other			_	
Spike Source			_	

	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Hotes
Benzyl chloride	0.010	ND<0.010				<u> </u>
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				<u> </u>
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	0.048		14.2		
Bromoform	0.010	0.046		19.4		
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	0.048		13.8		
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	0.044		24.2		
Chloroethane	0.010	ND<0.010				<u></u>
Chloroform	0.010	0.049		11.5		
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	0.153		17.0		

Continued

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Spike 1-FCD2-SB12-SS1-3-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroetnane	0.010	0.048		10.3		
1,2-Dichloroethane	0.010	0.051		12.2		
1,1-Dichloroethylene	0.010	0.039		9.3		
trans-1,2-dichloroethylene	0.010	0.047		11.1		
Dichloromethane	0.010	0.047		6.7		
1,2-Dichloropropane	0.010	0.052		15.6		
1,3-Dichioropropylene	0.010	0.153		15.8		
1,1,2,2-Tetrachioroethane	0.010	0.115		21.8		
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	0.115		21.8		
1,1,1-Trichloroethane	0.010	0.044		13.4		
1,1,2-Trichloroethane	0.010	0.153		17.0		
Trichloroethylene	0.010	0.048		16.4		
Trichlorofluoromethane	0.010	ND<0.010				
Tricrloropropane	0.010	ND<0.010				
Vany1 chionide	0.010	ND<0.010				ļ

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No36	608-7	
Client			ield Sampl			1-3-ITC
Project <u>AF Plant 42 IRP-II</u>		D	ate Collec	ted	4-16-86	
Client No.		D	ate Receiv	ed	4-19-86	
Laboratory Supervisor Approva		D	ate Analyz	ed	5-2-86	
	_	Q	C Report N	o	8020-22	
Sample Matrix:						
<pre> / Water (ug·L)</pre>		D	ilution Fa	ctor	N/A	
<u>/X /</u> Solī (ug/g)		×M	oisture _			
// Other						
Spike Sounce						
	<u></u>					
:		ncentratio		Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
	<u> </u>					†

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Ethyl benzene

Xylenes (Dimethyl benzene)

Toluene

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		Ĺ	ab Sample	No36	608-9	
Client		F	ield Sampi	e No. <u>1-FC</u>	D2-SB12-SS	1-3-ITC
Project AF Plant 42 IRP		D	ate Collec	ted	4-16-86	
Cirent No.		D	ate Receiv	ed	4-19-86	
Laporatory Supervisor App	roval:	D	ate Analyz	ed	5-2-86	
		Q	C Report N	o	8020-22	
Sample Matrix:						
// Water (ug/L)		D	ilution Fa	ctor	N/A	
/X / Soil (ug/g)				· ·		
/_/ Other						
Spike Source			-			
,						
	Co	ncentratio	n	Retention Time		
Compound		Column 1		Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnlorobenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	0.007¢		12.5		
1,4-Dichioropenzene	0.005	0.007¢		12.5		
		 		 	 	

ND<0.005

ND<0.005

ND<0.005

0.005

0.005

0.005

^{¢ -} These isomers co-elute at this concentration. Amount reported is total.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No36	608-8	
Client	-	F	ield Sampl	e No. <u>9-Ph</u>	W2-SB1-SS1	-3-ITC
Project AF Plant 42 IRP-II		D	ate Collec	ted	4-17-86	
Client No.		D	ate Receiv	ed	4-19-86	
Laboratory Supervisor Approva		ם	ate Analyz	ea	5-2-86	
		Q	C Report N	o	8020-22	
Sample Matrix:						
/_/ Water (ug/L)		ō	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture			
/_/ Other						
Spike Source	<u>-</u>					
	 			·		ŗ
	Co	ncentratio	n	 Retenti	on Time	
Compound		Column 1				Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
	1					

2

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394 Lab Sa				No. <u>36</u>	608-10	
Client			ield Sampl			
Project AF Plant 42 IRP-II		D	ate Collec	ted	4-17-86	
Client No.			ate Receiv			
Laboratory Supervisor Approva		D	ate Analyz	ed	5-2-86	
			C Report N			
Sample Matrix:						
/_/ Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		*M	oisture _			
/_/ Other						
Spike Source						
	,					
	(0	ncentratio	n	Retenti	on Time	
Compound	Det Lim		Column 2		Column 2	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1/2 5 5 5 5 5 5 5 5	0.00					<u> </u>
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Bichlorobenzene	C.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
25.77	1					
Toluene	0.005	ND<0.005				ļ
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

 ${\tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL SERVICES

The service of Applies were training to the GPT The State April 1994 to 1994 the State Application



Engineering Science 57 Executive Park So., Suite 590 Atlanta, GA 30329-2213 October 9, 1986

Attn: M.A. Guthrie

April 23, 1986

56394

36658/rjc

REVISED REPORT

Eight (8) soil samples.

The samples were analyzed for Total Petroleum Hydrocarbons (TPH) by infrared spectrosscopy technique (EPA procedure 418.1). The results are listed below.

Sample: ES Job No. 56394, AF Plant 42 IRP-II

Date of Analysis: 5-1-86

	.,		Total Petroleum
Date	<u>Time</u>	Sample Identification Number	Hydrocarbons (ug/g)
04-22-86	0000	7-ERA2-SB6-SS24-100-ITC	4
		7-ERA2-SB6-SS24-100-ITC Dup	5
		7-ERA2-SB6-SS24-100-ITC Spike	25
		Spike Concentration	23
04-21-86	1130	7-ERA2-SB6-SS10-30-ITC	4750
04-18-86	0800	7-ERA2-SB5-SS29-150-ITC	3600
04-18-86	0800	7-ERA2-SB5-SS31-170-ITC	6
04-21-86	1130	7-ERA2-SB6-SS18-70-ITC	8
04-19-86	0800	7-ERA2-SB5-SS34-200-ITC	4
04-21-86	1130	7-ERA2-S86-SS14-50-ITC	2
04-21-86	1130	7-ERA2-SB6-SS5-10-ITC	ND<2

Relative Percent Difference - 22.2%

Percent Recovery - 89.1%

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

David S. Tripp

Chemist

Eric W. Lindsay
Laboratory Manager I

ENGINEERING-SCIENCE

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ANALYTICAL SERVICES



Engineering Science 57 Executive Park S., Suite 590 Atlanta, GA 30329-2213 October 9, 1986

Attn: M.A. Guthrie

Page 1 of 11

April 24, 1986

56394

36675 710

REVISED REPORT

Four (4) soil samples, and Three (3) water samples.

Sample Identification	<u>Date</u>	Time
7-ERA2-SE7-SS5-10-ITC	4-22-86	1230
7-ERA2-SB7-SS10-30-ITC	4-22-86	1230
7-EPA2-SB7-SS14-50-ITC	4-22-86	1230
7-ERA2-SB7-SS15-10-ITC	4-22-86	1230

Sample Identification	Date	Time
DW2-1-ITC DW4-1-ITC	4-23-86 4-23-86	1030
DW4-2-ITC	4-23-86	1100 1100

The samples were analyzed for purgeable halocarbons using a Tekman liquid sample consentrator and a varian 6000 gas chromatograph equipped with a hall electrolytic conductivity detector. The samples were prepared according to EPA Method 601. The results are listed on the Purgeable Halogenated Summary Sheets.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a protisionization detector. The samples were prepared according to EPA Method 600. The results are listed on the Aromatic Volatile Organics sheets.

The four cost samples were analyzed for total petroleum hydrocarbons (TPH) by infrared spectroscopy technique (EPA procedure 418.1). The results are listed below.

William F. Fassings

Chemist

Enio W. Lindsay
Laboratory Manager I

Eng. Sci. M.A. Guthrie

July 5,1986 JN: 36675 - Fage 2

Two water samples were digested with acid and analyzed by A.A.S. The results are listed on the Metals summary sheets.

The water samples were also analyzed for Cyanide according to Standard Methods for the Examination of Water and Wastewater, Method 412E. The results are listed in the A.F.S. Metals and Q.C.R.S. Metals summary sheets, also in the A.R.S. and Q.C.R.S. Environmental Quality Parameters summary sheets.

Total Petroleum Hydrocarbons

SAMPLE: ES Job No. 56394, AF Plant 42, IRP-II DATE OF ANLAYSIS: 5-1-86

Sample Identification	Micrograms/grams
7-ERA2-SB7-SS5-10-ITC	ND < 2
7-ERA2-SE7-SS10-30-ITC	ND<2
7-ERA2-SE7-SS14-50-ITC	3
7-ERA2-SB7-SS15-10-ITC	3
7-ERA2-SB7-SS15-10-ITC Duplicate	2
7-EPA2-SB7-SS15-10-ITC Spike	20
Spike Concentration	23

Relative Percent Difference - 40.0%

Percent Recovery - 76.1%

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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Page: 3

Dilution Factor

(x) Water (uq/L) Soil (ud/ml)

Summile Matrix:

Propect No. Ai Plant 42 (RP-II)

FS GOD MO. 1:1:1:1:1 Client No.

Laboratory Supervisor Approval: Report: QC Report No. 56394

Date Received 4-3	4-24-86	``. . ``.	Other							
Field Sample No.	tab Sample No.	Ž	*	·					3 4 1	ı
DW4 - 1 - I FC	36675-1	ND<100			!		!			
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Bate Analyzed	Σ	4/25								:
Analytical Method	*	·								

If % measuring as repairted, results **
ite preserved as a cry amount basis.

 $E\approx E\log n$ AAS $G\approx Cold Vapor AAS <math display="inline">G\approx Graphit$ Furnace AAS $H\approx Hydrodo (Sapor AAS)$. Unductively Coupled Plasma

engineering Schence

ODALTIY CONTROL RESULIS SUMMARY MOLATS

Page: 4 Report:

1

Summile Matrix:

 Spirke Source(s)

0ther

Dilution Factor *Moisture

OC Peport No. Laboratory Supervisor Approvate

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All Duplicatory Sample Nos. Buplicates Spike Date Anal. 36675-26 36675-2C 4-25	* 2		į	•	!		!	! !			ľ	!	! !
yte Laboratory Sample Nos. Buplicates Spike Duplicates $\frac{\mathbf{g}}{36675-2\mathbf{g}}$ $36675-2\mathbf{g}$ $36675-2\mathbf{g}$ $36675-2\mathbf{g}$			<u> </u>		!						<u> </u>		
yte Laboratory Sample Nos. Buplicates Spike Duplicates $\frac{\mathbf{g}}{36675-2\mathbf{g}}$ $36675-2\mathbf{g}$ $36675-2\mathbf{g}$ $36675-2\mathbf{g}$;	i		1		!					
wite Laboratory Sample Nos. Buplicates Spike the $\frac{6}{36675-26}$ $36675-2C$		رم.	,						i		İ		
wite Laboratory Sample Nos. Buplicates Spike the $\frac{6}{36675-26}$ $36675-2C$	<u>-</u> د	5					}		: 		i		
wite Laboratory Sample Nos. By Spirke $\frac{\mathbf{g}}{36675-2\mathbf{g}}$ 36675-2C	ate .	4		:	į		!		! !			į	
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 $[\]star$ - If % moisture is reported, results ** are presented on a dry-weight basis.

Engineering-Science

ANALYTICAL RESULTS SUMMARY Environmental Quality Parameters

Page: 5 Report:

Laboratory Supervisor Approval: OC Report No.Not enough sample Dilution Factor * Moisture Water (ug/L) Soil (ug/ml) /x/ Water (ug/l // Soil (ug/m // Other Sample Matrix: Project No. AF Plant 42 IRP-II Client No. Date Collected 4-23-86 Date Received 4-23-86 ES Job No. 56394 Client

					1			N .	
Field Sample No.	Lab Sample No.	Cyanide			+	7			2 6
DW4-1-ITC	36675-1	ND<20							
DW4-2-11C	36675-2	ND<20							
_									
			+						
	1	4	-				-		
Date Analyzed	∑ C	4-25		:	:	:	:		:
Analytical Method	*	412F		:			:		

A - If % moisture is reported, results AA are presented on a dry-weight basis.

Engineering-Science

Environmental Quality Parameters QUALITY CONTROL RESULTS SUMMARY

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Report:

QC Report No. Laboratory Supervisor Approval:

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oroval		g	¥1									
QC Report No. Laboratory Supervisor Approval:	,	covery	NCC .									
upervi		Spiked Recovery	—'; 1									
QC Report No. Laboratory St		Spi	5A			 	_		·	 		
QC Rep Labora				IPLE.								
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		Duplicates	77.	EIT.								
			- -	ATE FO								
			8 lank	DUPLI								
or		** Anal.	Method Blank	N SPIKE OR								
Dilution Factor *Moisture			Date Anal.	SEIVED TO RU								
Q *		Sample Nos.	Spike	NOT ENDUGH SAMPLE RECEIVED TO RUN SPIKE OR DUPLICATE FOR EITHER SAMPLE								
: /L) /m1)	(5)	Laboratory Sample Nos.	Duplicates Spike Date Anal.	NOT ENOUG								
Sample Matrix: /X/ Water (uŋ/L) // Soil (ug/ml)	2/ Other Spike Source(Analyte	Metal	Cyanide								

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

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QUALITY CONTROL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

Lab Sample Nos. DW4-2-ITC	QC Report No.	601-28	
Duplicates <u>36675-10, 36675-1</u> 2	Date Analyzed	4-29-86	·
Spike <u>36675-13</u>	Laboratory Sup	ervisor Approval:	
Sample Matrix:	WF-	Francis	
<pre>/X / Water (ug/L)</pre>	Dilution Factor	r J _{N/A}	
<u>/</u> / Soil	*Moisture	N/A	{%
// Other			
Spike Source			

		Du	plicat	es		Spike	Recover	, l	
Compound	Blank	Cl	C2	RPD	SA	SR	SSR	PR	Notes
Benzyl chloride	ND<	ND<	ND<			<1.0			
Bis(2-Chloroethoxy)methane	NDS	ND 6	NDδ			<1.0			
Bis(2-Chloroisopropyl)ether	NDS	ND6_	ND8] <u>-</u>	<1.0			
Bromobenzene	ND 1.0	ND8	ND 1.6			<1.0			
Bromodichloromethane	NDδ	ND 6	ND 6		10.0	<1.0	11.2	112	
Bromoform	NDS	ND S	ND 1.6		10.0	<1.0	11.5	116	
Bromomethane	ND8	ND8	NO S			<1.0			
Carbon tetrachloride	NDS	ND8	ND 8		10.0	<1.0	11.9	119	
Chloroacetaldehyda	NDS	80g	NDS 1.0			<1.0			
Chlora!	NDδ	NDS_	ND 8			<1.0			
Chlorobenzene	NDS	NDS	ND6		1.0	<1.0	10.8	108	
Chloroethane	NDS 1.0	ND S	ND 1.0			<1.0			
Chloroform_	ND 8	ND5	ND8		10.0	<1.0	11.9	119	
1-Chlorohexane	NDS	NDS_	ND8			<1.0			
2-Chloroethyl vinyl ether	ND 8	ND 8	ND &			<1.0			
Chloromethane	8 ^{OV}	NDS	NDS 1.0			<1.0			
Chloromethyl methyl ether	ND8	NDS	NDS 1.6			<1.0			
Chlorotoluene	ND5	ND8	ND &			<1.0			
Dibromochloromethane	ΝDδ	Nos	80K		31.0	<1.0	37.8	122	

QUALITY CONTROL RESULTS SUMMARY Purgeable Halocarbons EPA Metnod 601

DW4-2-170

		Duplicates			Spike Recovery				. =
Compouna	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Dipromomethane	ND<	ND<	ND<			<1.0			
Dichlorodifluoromethane	ND 6	ND ≤ 1.0	ND §			<1.0			
1,1-Dichloroethane	NDδ	ND 1.0	ND8		10.0	<1.0	11.6	116	
1,2-Dichlorgethane	\$08 808	NºO ó	¥D8		10.0	<1.0	11.2	112	
1,1-0:caloroethylene	NDδ	ND 6	NDS 1.0		10.0	<1.0	14.4	144	
trans-1,2-dichloroethylene	NDS	ND S	ND 8		10.0	<1.0	10.7	107	
Dichloromethane	NDδ	ND5	ND S		10.0	<1.0	11.0	110	
1,2-Dichloropropane	NDS	PD V.	AD8		10.0	<1.0	12.5	125	
1,3-Dichloropropylene	PDδ	ND8	ND 1.0		31.0	<1.0	37.8	122	
1,1,2,2-Tetrachloroethane	ΝDδ	ND S	NDδ		20.0	<1.0	21.6	108	
1,1,1,2-Tetrachloroethane	Nº 6	Nºó 1.ó	ND S			<1.0			
Tetrachloroethylene	ND8	NDδ 1.6	ND 8		20.0	<1.0	21.6	108	
1,1,1-Trichloroethane	NDS	NDS	ND6		10.0	<1.0	9.7	97	
1,1,2-Trichlorcethare	NDS	ND8	S.I.		31.0	<1.0	37.8	122	
Trichloroethylene	NDS	AD9	ND 8		10.0	<1.0	12.0	120	
Trichlorofluoromethane	NDS	ND5	ND 1.0			<1.0			
Trichloropropane	ND8	ND 6	ND≷ J.Y			<1.0			
Vinyl chloriae	N'D S	ND8	ND6			<1.0			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

ES Job No56394	Lab Sample No	36675-9	
Client	Field Sample No.	DW2-1-ITC	
Project AF Plant 42 IRP-II	Date Collected	4-23-86	
Client No.	Date Received	4-24-8€	
Laboratory Supervisor Approval:	Date Analyzed	4-29-86	
With tarrange	QC Report No.	601-28	
Sample Matrix:			_
<pre>/X / Water (ug/L)</pre>	Dilution Factor _	N/A	
<u>/_</u> / Soil	*Moisture	N/A	9
/_/ Other			
Spike Source			

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	1.0	ND<1.0				
Bis(2-Chloroethoxy)methane	1.0	ND<1.0				
Bis(2-chloroisopropyl)ether	1.0	ND<1.0				
Bromobenzene	1.0	ND<1.0				
Bromodichloromethane	1.0	ND<1.0				
Bromoform	1.0	ND<1.0				
Bromomethane	1.0	ND<1.0				
Carbon tetrachloride	1.0	ND<1.0				
Chloroacetaldehyde	1.0	ND<1.0				
Chloral	1.0	ND<1.0				
Chloropenzene	1.0	ND<1.0				
Chloroethane	1.0	ND<1.0				
Chloroform	1.0	ND<1.0				
1-Chlorohexane	1.0	ND<1.0				
2-Chloroethyl vinyl ether	1.0	ND<2.0				
Chloromethane	1.0	ND<1.0				
Chloromethyl methyl ether	1.0	ND<1.0				
Chlorotoluene	1.0	ND<1.0				
Dibromochloromethane	1.0	ND<1.0				

Continued

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

DW2-1-170

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	1.0	ND<1.0				
Dichlorodifluoromethane	1.0	ND<1.0				
1,1-Dichloroethane	1.0	ND<1.0				
1,2-Dichloroethane	1.0	ND<1.0				
1,1-Dichloroethylene	1.0	ND<1.0				
trans-1,2-dichloroetrylene	1.0	ND<1.0				
Dichloromethane	1.0	ND<1.0				
1,2-Dichloropropane	1.0	ND<1.0				
1,3-Dichloropropylene	1.0	ND<1.0				
1,1,2,3-Tetrachioroetnane	1.0	ND<1.0				
1,1,1,2-Tetrachioroethane	1.0	ND<1.0				
Tetrachloroethylene	1.0	ND<1.0				
1,1,1-Trichlorgethane	1.0	ND<1.0				
1,1,2-Trichloroethane	1.0	ND<1.0				
Tricniomoethylene	1.0	ND<1.0				
Trichlorofluoromethane	1.0	ND<1.0				
Trich?enopropane	1.0	ND<1.0				
Vinyl onlonide	1.0	ND<1.0				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

ES Job No. <u>56394</u>	Lab Sample No	36675-10	
Client	Field Sample No.	DW4-2-ITC	
Project AF Plant 42 IRP-II	Date Collected	4-23-86	
Client No.	Date Received	4-24-86	
Laboratory Supervisor Approval:	Date Analyzed	4-29-86	
Sample Matrix	QC Report No.	601-28	
Sample Matrix:			
$\frac{X}{X}$ Water (ug/L)	Dilution Factor _	N/A	
/ Soil	*Moisture	N/A	9
/_/ Other			
Spike Source			

	C	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	1.0	ND<1.0				
Bis(2-Chloroethoxy)methane	1.0	ND<1.0				
Bis(2-chlordisepropyl)ether	1.0	ND<1.0				<u> </u>
Bromobenzene	1.0	ND<1.0				
Bromodichloromethane	1.0	ND<1.0				
Bromoform	1.0	ND<1.0				
Bromomethane	1.0	ND<1.0				
Carbon tetrachloride	1.0	ND<1.0				
Chloroacetaldehyde	1.0	ND<1.0				
Chloral	1.0	ND<1.0				
Chlorobenzene	1.0	ND<1.0				
Chloroethane	1.0	ND<1.0				
Chloroform	1.0	ND<1.0				
1-Chlorohexane	1.0	ND<1.0				
2-Chloroethyl vinyl ether	1.0	ND<1.0				
Chloromethane	1.0	ND<1.0				
Chloromethyl methyl ether	1.0	ND<1.0				
Chlorotoluene	1.0	ND<1.0				
Dibromochloromethane	1.0	ND<1.0				

Continued

ANALYTICAL PESULTS SUMMARY Pungeable Halocanbons EPA Method 601

DW4-2-170

	Co	ncentratio	r	Retenti	on Time	T
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	<u>Notes</u>
Dipromomethage	1.0	ND<1.0				
Dichlorodifluoromethane	1.0	ND<1.0				<u> </u>
1,1-Dichlorgethane	1.0	ND<1.0				
1,2-Dichloroethane	1.0	ND<1.0				<u></u>
1,1-Broblancethylene	1.0	ND<1.0				
thans-1,2-dichloncethylene	1.0	ND<1.0				
Jich oncmethane	1.0	ND<1.0				
1,2-Dichlonconopane	1.0	ND<1.0				ļ
1.3-0-anionaphapylene	1.0	ND<1.0				
1,1,2,2-Tethach oncethane	1.0	ND<1.0				
1,1,1,2-Tetrachloroethane	1.0	ND<1.0				
Tetnach oncethy ene	1.0	ND<1.0				
1.1.1-Tricrioroethare	1.0	ND<1.0				
1,1,2-Trichloncethane	1.0	ND<1.0				
	1.0	ND<1.0				
Intenianofiuanometrane	1.0	ND<1.0				
Trionlonophopare	1.0	ND<1.0				
<u> Vany's colorace</u>	1.0	ND<1.0				

 $N\partial$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

ES Job No. 56394	Lab Sample No.	36675-11	
Client	Field Sample No.		
Project AF Plant 42 IRP-II	Date Collected	4-23-86	
Client No.	Date Received	4-24-86	
Laboratory Supervisor Approval:	Date Analyzed	4-29-86	
Witnessen -	QC Report No.	601-28	
Sample Matrix:			
<u>/X /</u> Water (ug/L)	Dilution Factor	N/A	
<u>/</u> / Soil	*Moisture	N/A	<u> </u>
/_/ Other		· · · · · · · · · · · · · · · · · · ·	
Spike Source			
	Concentration	tention Time	

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	1.0	ND<1.0				
Bis(2-Chloroethoxy)methane	1.0	ND<1.0				
Bis(2-chlcroisopropyl)ether	1.0	ND<1.0				
Bromobenzene	1.0	ND<1.0				
Bromodichloromethane	1.0	ND<1.0				
Bromoform	1.0	ND<1.0				
Bromomethane	1.0	ND<1.0				
Carbon tetrachloride	1.0	ND<1.0				
Chloroacetaldehyde	1.0	ND<1.0				
Chloral	1.0	ND<1.0				
Chlorobenzene	1.0	ND<1.0				
Chloroethane	1.0	ND<1.0				
Chloroform	1.0	ND<1.0				
1-Chlorohexane	1.0	ND<1.0				
2-Chloroethyl vinyl ether	1.0	ND<1.0				
Chloromethane	1.0	ND<1.0				
Chloromethyl methyl ether	1.0	ND<1.0				
Chlorotoluene	1.0	ND<1.0				
Dibromochloromethane	1.0	ND<1.0				

Continued

ANALYTICAL RESULTS SUMMARY Purgeaple nalocarbons EPA Method 601

DW4-1-175

	Co	ncentratic	r	Retenti	1	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromometrane	1.0	ND<1.0				
Dichlorodifluoromethane	1.0	ND<1.0				<u> </u>
1,1-Bronlondethane	1.0	ND<1.0				
1,2-Dichioroethane	1.0	ND<1.0				
1,1-Dichloroethylene	1.0	ND<1.0		<u> </u>		
trans-1,2-dichlorcethylene	1.0	ND<1.0			İ	<u> </u>
Dichloromethane	1.0	ND<1.0				<u> </u>
1,2-Dichloropropane	1.0	ND<1.0				ļ
1,3-0ichlanaphobylene	1.0	ND<1.0				
1,1,2,2-Tetradriloncethane	1.0	ND<1.0				
1,1,1,2-Tetrachioncethane	1.0	ND<1.0				
Tetnachlohoethylene	1.0	ND<1.0				ļ
1,1,1-Trichlordethage	1.0	1.6		13.4		
1,1,2-Trichloroethane	1.0	ND<1.0				
Trionlongethylene	1.0	ND<1.0				
Intenionafiuonomethane	1.0	ND<1.0				
Trichlonophopane	1.0	ND<1.0				
Vinyl chloride	1.0	ND<1.0		i		<u> </u>

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

ES Job No56394	Lab Sample No.	36675-12	
Client	Field Sample No.	DW4-2-ITC Duplicate	
Project AF Flant 42 IRP-II	Date Collected	4-23-86	
Client No.	Date Received	4-24-86	
Laboratory Supervisor Approval:	Date Analyzed	4-29-86	
Laboratory Supervisor Approval:	QC Report No.	601-28	
Sample Matrix:			
<pre>/X / Water (ug/L)</pre>	Dilution Factor _	N/A	
<u>/_</u> / Soil	*Moisture	N/A	&
/_/ Other		 	
Spike Source			

	Concentration			Retenti	I	
Compound	Det Lim	Column 1	 Column 2	Column 1	Column 2	Notes
Benzyl chloride	1.0	ND<1.0				<u> </u>
Bis(2-Chloroethoxy)methane	1.0	ND<1.0				
Bis(2-chloroisopropyl)ether	1.0	ND<1.0				
Bromobenzene	1.0	ND<1.0				1
Bromodichloromethane	1.0	ND<1.0				
Bromeform	1.0	ND<1.0				
Bromomethane	1.0	ND<1.0				1
Carbon tetrachloride	1.0	ND<1.0				<u> </u>
Chloroacetaldehyde	1.0	ND<1.0				
Chloral	1.0	ND<1.0				1
Chlorobenzene	1.0	ND<1.0				
Chloroethane	1.0	ND<1.0				
Chlorofora	1.0	ND<1.0				
1-Chlorchexane	1.0	ND<1.0				<u> </u>
2-Chloroethyl vinyl ether	1.0	ND<1.0				<u> </u>
Chloromethane	1.0	ND<1.0			<u></u>	
Chloromethyl methyl ether	1.0	ND<1.0				<u></u>
Chlorotoluene	1.0	ND<1.0				1
Dibromochloromethane	1.0	ND<1.0				<u> </u>

Continued

ANALYTICAL RESULTS SLYMARY Pungeable Halocarbons EPA Method 601

DW4-2-ITC Dup route

	Concentration		Retenti			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Sicromomethane	1.0	ND<1.0				ļ +
Dignionodifiuonomethane	1.0	ND<1.0	<u> </u>			,
1,1-Dichloroethane	1.0	ND<1.0				
1,2-Dichloroethane	1.0	ND<1.0				ļ
1.1-Dichlordethylene	1.C	ND<1.0				
tnams-1,2-dochionoethylena	1.0	ND<1.0				<u> </u>
<u> Discloremethane</u>	1.C	ND<1.0				İ
1.2-Dichichoponopare	1.0	ND<1.0				
1.3-Iranianagnapylere	1.0	ND<1.0				<u> </u>
1,1,2,3-Tetracrloncethane	1.0	ND<1.0				
1,1,1,2-Tetrachiproethane	1.0	ND<1.0				
Tethachlondethylene	1.0	ND<1.0				
1,1,1-Inteniancetmane	1.c	ND<1.0				
1,1,2-Trichloroethare	1.0	ND<1.0				
Interlorgethylene	1.0	ND<1.0				
Intenionofluenomethane	1.0	ND<1.0				
Trichlorophopane	1.0	ND<1.0				
Viny' enloride	1.0	ND<1.0				<u>i</u>

 ${\tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

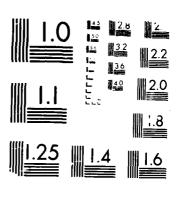
ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

ES Jot No. <u>56394</u>	Lab Sample No	36675-13	
Client	Field Sample No.	DW4-2-ITC	Spike
Project AF Plant 42 IRP-II	Date Collected	4-23-86	
Client No.	Date Received	4-24-86	
Laboratory Supervisor Approval:	Date Analyzed	4-29-86	
Whiteman	QC Report No.	601-28	
Sample Matrix:			
<u>/x</u> ' Water (ug/L)	Dilution Factor _	N/A	
<u>/_</u> / Sof1	*Moisture	N/A	
/_/ Other			
Spike Source			

	C	<u>oncentrati</u>	on	Retenti	on Time	4
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	1.0	ND<1.0				
Bis(2-Chloroethoxy)methane	1.0	ND<1.0				
Bis(2-chloroisopropyl)ether	1.0	ND<1.0				
Bromobenzene	1.0	ND<1.0				
Bromodichloromethane	1.0	11.2		14.2		
Bromoform	1.0	11.6		19.4		!
Bromcmethane	1.0	ND<1.0				
Carbon tetrachloride	1.0	11.9		13.7		
<u>Chloroacetaldehyde</u>	1.0	ND<1.0				
Chloral	1.0	ND<1.0				
Chlorobenzene	1.0	10.8		24.5		
Chlorcethane	1.0	ND<1.0				
Chloroform	1.0	11.9		-		
1-Chlorohexane	1.0	ND<1.0				
2-Chloroethyl viryl ether	1.0	ND<1.0	- 			
Chloromethane	1.0	NC <1.0	•			
Chicromethyl methyl ether	1.0	ND /1				
Chlorotoluene	1.0	NE + 1				
Dibromochloromethane	1.0	į	•			

Continued

INSTALLATION RESTORATION PROGRAM PHASE 2
CONFIRMATION/QUANTIFICATION STAG (U)
ENGINEERING-SCIENCE INC PASADENA CALIF 28 FEB 87
F33615-84-D-4483 F/G 24/7 7/7 AD-R198 943 UNCLASSIFIED NL



MICROCOPY RESOLUTION TEST CHART

ANALYTICAL RESULTS SUMMARY Purgeable Halocarbons EPA Method 601

DW4-2-ITC Spike

	Co	ncentratio	n	Retenti	on Time	<u> </u>
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	1.0	ND<1.0				
Dichlorodifluoromethane	1.0	ND<1.0				
1,1-Dichloroethane	1.0	11.6		10.3		
1,2-Dichloroethane	1.0	11.2		12.2		
1,1-Dichioroethylene	1.0	14.4		9.1		
trans-1,2-dichloroethylene	1.0	10.7		11.0		
Dichloromethane	1.0	11.0		6.5		
1,2-Dichloropropane	1.0	12.5		15.5		
1,3-Dichloropropylene	1.0	37.8		15.8		
1,1,2,2-Tetrachloroethane	1.0	21.6		21.8		
1,1,1,2-Tetrachioroethane	1.0	ND<1.0				
Tetrachloroethylehe	1.0	21.6		21.8	<u></u>	ļ
1,1,1-Trichloroethane	1.0	9.7		13.4		<u> </u>
1,1,2-TrichToroethane	1.0	37.8		16.9		
Trichloroethylene	1.0	12.0		16.3		ļ
Trichlorofluoromethane	1.0	ND<1.0				
Trichioropropane	1.0	ND<1.0				
Vinyl chloride	1.0	ND<1.0				<u> </u>

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Purgeable Aromatics EPA Method 602

ES Job No. 56394	Lab Sample No	36675-7	
Client	Field Sample No.	DW4-2-ITC	
Project AF Plant 42 IRP-II		4-23-86	
Client No.	Date Received	4-24-86	
Laboratory Supervisor Approva		4-30-86	
	QC Report No	602-20	
Sample Matrix:		·	
<u>/X</u> / Water (ug/L)	Dilution Factor	N/A	
/ Soil	*Moisture		%
/_/ Other			
Spike Source			
	Concentration Re	tention Time	_
Compound	Det Lim Column 1 Column 2 Column		

im	ND<1.0 ND<1.0 ND<1.0 ND<1.0	Column 2	Column 1	Column 2	Notes
	ND<1.0				
	ND<1.0				
				<u> </u>	
	ND<1.0				
		1	1	F.	
	ND<1.0				ļ
	ND<1.0				
	ND<1.0				
	ND<1.0				
		ND<1.0	ND<1.0	ND<1.0	ND<1.0

 ${\tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Purgeable Aromatics EPA Method 602

ES Job No56394		Ĺ	ab Sample	No. <u>3667</u>	5-8	
Client		F	ield Sampl	e No	DW4-1-ITC	
Project AF Plant 42 IRP-I		D	ate Collec	ted	4-23-86	
Client No.		ם	ate Receiv	ed	4-24-86	
Laboratory Supervisor Approva		D	ate Analyz	ed	4-30-86	
		Q	C Report N	lo	602-20	
Sample Matrix:						
<u>/X</u> / Water (ug/L)		D	ilution Fa	ctor	N/A	
<u>/</u> _/ Soil		*M	loisture			
// Otner			· · · - · · · · ·			
Spike Source			· · · · · -			
		·				<u> </u>
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1.0	ND<1.0				
Cnioropenzene	1.0	ND<1.0				
1,2-Dichloropenzene	1.0	ND<1.0				
1,3-Dichlorobenzene	1.0	ND<1.0				
1.4-Dichlorocenzene	1.0	ND<1.0				
Ethyl benzene	1.0	ND<1.0				
Toluene	1.0	ND<1.0				
Xylenes (Dimethyl benzene)	1.0	ND<1.0				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Purgeable Aromatics EPA Method 602

ES Job No56394		1	ab Sample	No. 3667	5-10	
Client			•		DW2-1-ITC	
Project AF Plant 42 IRP-II	· · · · · · · · · · · · · · · · · · ·			ted		
Client No.		D	ate Receiv	red	4-24-86	
Laporatory Supervisor Approva				ed		
	_	Q	C Report N	io	602-20	
Sample Matrix: /X / Water (ug/L)				ictor		 ,
/_/ Soil /_/ Other			oisture			
Spike Source						
	Со	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	1.0	ND<1.0				
Chloropenzene	1.0	ND<1.0				
1,2-Dichloropenzene	1.0	ND<1.0				
1,3-Dichloropenzene	1.0	ND<1.0				
1,4-Dichlorobenzene	1.0	ND<1.0				
Ethyl benzene	1.0	ND<1.0				
Toluene	1.0	ND<1.0				
Xylenes (Dimethyl benzene)	1.0	NC<1.0				<u> </u>
	ļ		······			

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.



ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

THE BOOK OF THE STATE OF THE S

Engineering Science 57 Executive Park So. Suite 590 Atlanta, GA 30329-2213 October 13, 1986

Attn: M.A. Guthrie

Page 1 of 2

April 28, 1986

56394MAG

36699/rjc

REVISED REPORT

Eleven (11) soil samples.

Sample Identification	<u>Date</u>	Time
21-FDA7-SB1-SS3-5-ITC	04-24-86	0900
21-FDA7-SB1-SS8-20-ITC	04-24-86	0900
21-FDA7-S82-SS4-7.5-ITC	04-24-86	1000
21-FDA7-SB2-SS8-20-ITC	04-24-86	1000
21-FDA7-SB3-SS3-5-ITC	04-24-86	1100
21-FDA7-SB3-SS3-20-ITC	04-24-86	1100
8-FTA8-SB1-SS3-5-ITC	04-25-86	0815
8-FTA8-SB1-SS8-20-ITC	04-25-86	0815
17-NFTC-SB3-SS1-3-ITC	04-25-86	1000
17-NFTC-SB3-SS15-3-ITC	04-25-86	1000
1-FCD2-SB10-SS1-3-ITC	04-25-85	1500

The samples were analyzed for Total Petroleum Hydrocarbons (TPH) by infrared spectroscopy technique (EPA Method 418.1, Extraction Method 3550). The results are listed on the following page.

David S. Tripp

Chemist

Eric W. Lindsay Laboratory Manager I

October 13, 1986 JN: 36699 - Page 2

SAMPLE: ES Job No. 56394, AF Plant 42 IRP-II DATE OF ANALYSIS: 5-6-86

Sample Identification	Total Petroleum Hydrocarbons (ug/q)
17-NFTC-SB3-SS1-3-ITC	3
21-FDA7-SB3-SS8-20-ITC	ND<2
21-FDA7-SB3-SS3-5-ITC	ND<2
21-FDA7-SB2-SS8-20-ITC	ND<2
21-FDA7-SB1-SS8-20-ITC	ND<2
21-FDA7-SB1-SS3-5-ITC	ND<2
21-FDA7-SB2-SS4-7.5-ITC	ND<2
17-NFTC-SB3-SS15-3-ITC	ND<2
8-FTA8-SB1-SS3-5-ITC	ND<2
8-FTA8-SB1-SS8-20-ITC	ND<2
1-FCD2-SB10-SS1-3-ITC	ND<2
21-FDA7-SB2-SS4-7.5-ITC Duplicate	ND<2
21-FDA7-SB2-SS4-7.5-ITC Spike	18
Spike Concentration	20

Relative Percent Difference - N/A

Percent Recovery - 90.0%

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.



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ANALYTICAL SERVICES



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Engineering Science

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October 9, 1986

57 Executive Park, So., Suite 590

Atlanta, GA 30329-2213

Attn: Mark Guthrie

Page 1 of 46

April 30, 1986

56394

36732/rjc

REVISED REPORT

Eighteen (18) soil samples.

Sample Identification	<u>Date</u>	<u>Time</u>
19-ERA3-SB1-SS5-10-ITC	4-25-86	1400
19-ERA3-SB2-SS5-10-ITC	4-25-86	1430
10-PWN2-SB1-SS1-3-ITC	4-28-86	1100
10-PWN2-SB2-SS1-3-ITC	4-28-86	1115
10-PWN2-SB3-SS1-3-ITC	4-28-86	1130
10-PWN2-SB4-SS1-3-ITC	4-28-86	1145
10-PWN2-SB4-SS15-3-ITC	4-28-86	1145
12-ERA1-SB1-SS4-7.5-ITC	4-28-86	0900
12-ERA1-SB1-SS8-20-ITC	4-28-86	0900
12-ERA1-SB2-SS3-5-ITC	4-28-86	1000
12-ERA1-SB2-SS8-20-ITC	4-28-86	1000
13-DAB2-SB1-SS1-3-ITC	4-28-86	1200
13-DAB2-SB2-SS1-3-ITC	4-28-86	1215
13-DAB2-SB3-SS1-3-ITC	4-28-86	1230
13-DAB2-SB4-SS1-3-ITC	4-28-86	1245
5-AFTC-SB3-SS1-3-ITC	4-29-86	1200
5-AFTC-SB3-SS15-3-ITC	4-29-86	1200
6-OFTC-SB2-SS1-3-ITC	4-29-86	1230

The samples were analyzed for purgeable halocarbons using a Texman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Texman liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8020. The results are listed on the following summary sheets.

William P. Fassinger

William F. Fasser

Chemist

Richard L. Merrell Laboratory Director

Engineering Science Page 2

The samples were also extracted according to CAM Title 22:66700; and analyzed by Atomic Absorption Spectroscopy and Inductively Coupled Plasma. The phenolics were distilled and analyzed according to standard methods 510A/510C. The results are listed on the following pages.

Samples 5-AFTC-SB3-SS1-3-ITC, 5-AFTC-SB3-SS15-3-ITC, and 6-OFTC-SB2-SS1-3-ITC were extracted according to SW Method 8080 and split into two fractions. One fraction was cleaned several times with mercury and sulfuric acid and analyzed for PCB's. The second fraction was analyzed for organochlorine pesticides. Both fractions were analyzed by direct injection into a Varian 3700 gas chromatograph equipped with an electron capture detector. The results are listed on the following summary sneets.

Also the samples were analyzed for Oil and Grease by infrared spectroscopy technique (EPA procedure 413.2). The results are listed in Table I.

Table I

SAMPLE: ES Job No. 56394, AF Plant 42 IRP-II DATE OF ANALYSIS: 5-22-86

Sample Identification	Total Oil and Grease (ug/g)
13-DAB2-SB1-SS1-3-ITC	3
13-DAB2-SB2-SS1-3-ITC	ND<2
13-DA62-SB3-SS1-3-ITC	ND<2
13-DAB2-SB4-SS1-3-ITC	ND<2
12-ERA1-SB1-SS4-7.5-ITC	ND<2
12-ERA1-S61-SS8-20-ITC	ND<2
12-ERA1-SB2-SS8-20-ITC	ND<2
12-ERA1-SB2-SS3-5-ITC	8
19-EPA3-SE2-SS5-10-ITC	ND<2
19-EPA3-SB1-SS5-10-ITC	ND<2
10-PWN2-SB1-SS1-3-ITC	ND<2
10-PWN2-SB2-SS1-3-ITC	ND<2
10-PWN2-SB3-SS1-3-ITC	13
10-PWN2-SB4-SS15-3-ITC	ND<2
10-PWN2-SE4-SS1-3-ITC	ND < 2
10-PWN2-SB3-SS1-3-ITC Duplicate	5
10-PWN2-SB3-SS1-3-ITC Spike	30
Spike Concentration	20

Relative Percent Difference - 89%

Percent Recovery +105%

 ${
m ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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Engineering-Science

ANALYTICAL RESULTS SUMMARY Metals

Page: 3 Report:

56394
Job No.
ES

Project No.AF Plant 42 IRP-II Client No.
Date Collected 4-29-86

Client

Water (ug/L) Soil (ug/ml) Sample Matrix: 0ther \ \X\ \

QC Report No. 66700-10 Laboratory Supervisor Approval: 10 Dilution Factor * Moisture

Field Sample No.	Lab Sample No.	As	Ва	Cd	Cr	Ρυ	Hg	Se	Ag
6-0FTC-S82-SS1-3-ITC		ND<0.03	5.2	ND<0.03	ND<0.03 ND<0.06 ND<0.2	ND<0.2	0.016	ND< 0.005	0.1
5-AFTC-SB3-SS1-3-ITC	2	0.038	3.7	ND<0.03	ND<0.03 ND<0.06 ND<0.2		0.014	ND< 0.005	0.1
5-AFTC-SB3-SS15-3-LTC	3	0.044	4.0	ND<0.03	ND<0.03 ND<0.06 ND<0.2			ND< 0.005	ND<0.03
5-AFTC-SB3-SS15-3-ITC	40	0.059	3.8	ND<0.03	ND<0.03 ND<0.06 ND<0.2			ND< 0.005	ND<0.03
5-AFIC-SB3-SS15-3-IIC	58	0.52	8.4	4.8	4.9	4.6	1.08	0.41	0.88
Date Analyzed	E	5/16	5/15	5/15	5/15	5/15	5/19	5/12	5/15
Analytical Method	*	9	۵	م	۵	А	٥	9	٩

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

G = Graphit Furnace AAS P = Inductively Coupled Plasma C = Cold Vapor AAS

Engineer ing Science

ODALITY CONTROL RESULTS SUMMARY METALS

200 E.S.

Page: 4 Report:

Sample Matrix:

// Water (uq/L)
(/ Soil (uq/ml)

// Other Spike Source(s)

Dilution Factor 10

QC Report No. 66700-10 Laboratory Supervisor Approval

	Notes											
	PR	06	06	96	98	92	108	82	00	00		
ecovery	SSR	0.052	8.4	4.8	4.9	4.6	1.08	0.41	000	0.00		
piked R	SA SR SSR	0.052	3.9	ND< 0.03	NO< 0.06	ND< 0.02	0.002	ND< 0.005	>QN	0.03		
8	SA	0.5	Ω.	જ	5	5	,	0.5		4		
Sé	RPD	29	5	 	į I I)) ;	100			1		
plicate		0.059	3.8	ND< 0.03	ND< 0.06	ND<	0.003	ND< 0.005	>QN	50.0		
70	C1 C2 RP	0.044		ND< 0.03		ND< 0.02				50.0		
:	Blank	-	1 .	l 1	! !		!	! ! !		1		
** Anal.	_ ;		œ.	<u>a</u> .	۵	۵	Ú	g		_		
	Date Anal.	5/16	5/15	5/15	5/15					61/6		
sample Nos.		55	5.5	58	58	55	55	58		CC		
Laboratory Sample Nos.	Puplicates	40	40	40	40	40	40	40		40		
Analyte	Metal	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium		Jan 10		

Engineering-Science

QUALITY CONTROL RESULTS SUMMARY Environmental Quality Parameters

Page: 5 Report:

Dilution Factor *Moisture

Water (ug/L) Soil (ug/ml)

/X/

Sample Matrix:

// Other Spike Source(s)_

QC Report No. 66700-11 Laboratory Supervisor Approval:

	Notes					IN	TERN	CITA	NAL T	ECHI	orc.	5Y C
	PR	7.1										
ecovery	SSR	1.54										
Spiked Recovery	SR	0.12										
6	SA	2										
es	RPD	33										
Duplicates	C2	0.14										
0	C1	0.10										
	Blank	<0.05										
** Anal.	Method	420.1										
	Date Anal.	/9	!									
Sample Nos.	Spike	10-PWN1-504 12-PWN1-534 5515-3 3115-7										
Laboratory Sample Nos.	Duplicates	10- PWN 1-584 5515-3										
Analyte	Metal	Phenolics										

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

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ANALYTICAL RESULTS SUMMARY Environmental Quality Parameters

Page: 6 Report:

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3

QC Report No. 66700-11 Laboratory Supervisor Approval: Dilution Factor * Moisture Water (ug/L) Soil (ug/g) Other Sample Matrix: Project No. AF Plant 42 IRP-II 4-29-86 56394 Date Collected
Date Received ES Job No._ Client No. Client

CONTRACTOR CAMPINE TO THE TRACTOR CONTRACTOR	of ame of the l	i Caodo		4					
רופות סמווטופ אס.	cap Salipie No.		5			o secondone	1		
10PWN2-SB1-SS1-									
3-ITC		0.12							
10-PWN2-SB2-SS1-					_				
3-ITC		0.19							
10-PWN2-SB3-SS1-									
3-ITC		0.13							
10-PWN2-SB4-SS1-									
3-ITC		0.18							
10-PWN2-SB4-SS15-									
3-ITC		0.10							
		,							
Duplicate		0.14							
Spike		1.54							
Date Analyzed	M	5/5							
Analytical Method	**	420.1							

⁻ If % moisture is reported, results ** are presented on a dry-weight basis.

GC PESTICIDE ANALYSIS

Page 7

Method Blank
SAMPLE IDENTIFICATION: 36732 - MB0512P2

DATE ANALYZED: 5-17-86

UNITS: Micrograms/kilogram (ppb)

PESTICIDES-(PP's)

alpha-BHC	ND<1
beta-BHC	ND<1
delta-BHC	ND<1
gamma-BHC (Lindane)	ND<1
Heptachlor	ND<1
Aldrin	ND<1
Heptachlor Epoxide	ND<1
Endosulfan I	ND<1
Dieldrin	ND<2
4,4'-DOE	ND<2
Endrin	ND<2
Endosulfan II	ND<2
4,4'-DDD	ND<2
Endrin Aldenyde	ND<2
Engosulfan Sulfate	ND<2
4,4'-00"	ND<2
Methoxychlor	ND<10
Engrin Ketone	ND<2
Chlordane	ND<10
Toxaphene	ND<20
PC -1016	ND<10
PUB-1221	ND<10
PCE-1232	ND<10
PCB-1242	ND<10
PCB-1248	ND<10
PCB-1254	ND<20
PCB-1260	ND<20

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

TR - Trace, this compound was present, but was below the level at which concentration could be determined.

SAMPLE IDENTIFICATION: 36732 - 5-AFTC-SB3-SS1-3-ITC

DATE ANALYZED: 5-21-86

UNITS: Micrograms/kilogram (ppb)

PESTICIDES-(PP's)

- 1 - h - DUO	115.44
alpha-BHC	ND<1
beta-BHC	ND<1
delta-BHC	ND<1
gamma-BHC (Lindane)	ND<1
Heptachlor	ND<1
Aldrin	ND<1
Heptachlor Epoxide	ND<1
Endosulfan I	ND<1
Dieldrin	ND<2
4,4'-DDE	ND<2
Endrin	ND<2
Endosulfan II	ND<2
4,4'-DDD	ND<2
Endrin Aldehyde	ND<2
Endosulfan Sulfate	ND<2
4,4'-DDT	ND<2
Methoxychlor	ND<10
Endrin Ketone	ND<2
Chlordane	ND<10
Toxaphene	ND<20
PC8-1016	ND<10
PCB-1221	ND<10
PCB-1232	ND<10
PCB-1242	ND<10
PCB-1248	ND<10
PCB-1254	ND<20
PCB-1260	ND<20

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

TR - Trace, this compound was present, but was below the level at which concentration could be determined.

GC PESTICIDE ANALYSIS

SAMPLE IDENTIFICATION: 36732 - 5-AFTC-SB3-SS15-3-ITC

DATE ANALYZED: 5-21-86

UNITS: Micrograms/kilogram (ppb)

PESTICIDES-(PP's)

alpha-BHC	ND<4
beta-BHC	ND<4
delta-BHC	ND<4_
<pre>gamma-BHC (Lindane)</pre>	ND<4
Heptachlor	ND<4
Aldrin	ND<4
Heptachlor Epoxide	ND<4
Endosulfan I	ND<4
Dieldrin	8>Q N
4,4'-DDE	ND<8
Endrin	ND<8
Endosulfan II	ND<8
4,4'-DDD	8>QN
Endrin Aldehyde	ND<8
Endosulfan Sulfate	ND<8
4,4'-DDT	ND<8
Methoxychlor	ND<40
Endrin Ketone	ND<8
Chlordane	ND<40
Toxaphene	ND<80
PCB-1016	ND<10
PCB-1221	ND<10
PCB-1232	ND<10_
PCB-1242	ND<10
PCB-1248	ND<10
PCB-1254	ND<20
PCB-1260	TR<20

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

TR - Trace, this compound was present, but was below the level at which concentration could be determined.

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GC PESTICIDE ANALYSIS

Page 10

SAMPLE IDENTIFICATION: 36732 - 6-OFTC-SB2-SS1-3-ITC

DATE ANALYZED: 5-17-86

UNITS: Micrograms/kilogram (ppb)

PESTICIDES-(PP's)

alpha-BHC	ND<10
beta-BHC	ND<10
delta-BHC	ND<10
gamma-BHC (Lindane)	ND<10
Heptachlor	ND<10
Aldrin	ND<10
Heptachlor Epoxide	ND<10
Endosulfan I	ND<10
Dieldrin	ND<20
4,4'-DDE	ND<20
Endrin	ND<20
Endosulfan II	ND<20
4,4'-DDD	ND<20
Endrin Aldehyde	ND<20
Endosulfan Sulfate	ND<20
4,4'-DDT	ND<20
Methoxychlor	ND<100
Endrin Ketone	ND<20
Chlordane	ND<100
Toxaphene	ND<200
PCB-1016	ND<50
PCB-1221	ND<50
PCB-1232	ND<50
PCB-1242	ND<50
PCB-1248	320
PCB-1254	ND<100
PCB-1260	ND<100

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

TR - Trace, this compound was present, but was below the level at which concentration could be determined.

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 10-PWp2-SB4-SS1-3-ITC	QC Report No.	8010-29	
Duplicates <u>36732-16, 36732-2</u> 0	Date Analyzed	5-6-86	
Spike <u>36732-21</u>	Laboratory Superv	isor Approval:	
Sample Matrix:			
// Water (ug/L)	Dilution Factor _	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		%
<u>/</u> / Other			
Spike Source			

		Duplicates		Spike Recovery					
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<						
Benzyl chloride	0.010		0.010			<0.01	<u>0</u>		
Bis(2-Chloroethoxy)methane	₩D.б10	θ. δ <u>10</u>	ND δ10			<0.01	b l		
Bis(2-Chloroisopropyl)ether	ND გენ	80610	0.610			<0.01	b		
Bromobenzene	ND δ10	₿ ⁰ δ10	₩D. δ10			<0.01	b		
Bromodichloromethane	ND 610	ND გე	₩D.δ10		0.050	<0.01	0.049	98	
Bromoform	₩ ^D δ10	Ν Ο δ10	₩D. 510		0.050	<0.01	0.054	108	
Bromomethane	80.610	ŊD 610	80.610			<0.01	b		
Carbon tetrachloride	8 ^D δ10	θ ^D δ10	ND δ10		0.050	<0.01	0.045	90	
Chloroacetaldehyde	80δ10	₩ ^D δ10	₩ ^D δ10			<0.01	b		
Chloral	ND δ10	80.δ10	θ ⁰ . δ10			<0.01	b		
Chlorobenzene	8 ^D δ10	ND δ10	ND δ10		0.050	<0.01	0 0.052	104	
Chloroethane	80.610	θ.δ ₁₀	θ ^D δ10			<0.01	b		
Chloroform	θ.δ10	θ [.] δ10	θ.δ10		0.050	<0.01	0.050	100	
1-Chlorohexane	80.δ10	80.610	8 ^D δ10			<0.01	b		
2-Chloroethyl vinyl ether	80. δ10	ND δ10	ND δ10			<0.01	b		
Chloromethane	⁰ .δ10	ND δ10	ND δ10			<0.01	b		
Chloromethyl methyl ether	8 ^D δ10	θ ⁰ .δ10	80.610			<0.01	b		
Chlorotoluene	₩ ^D δ10	ND δ10	ND δ.δ10			<0.01	b		
Dibromochloromethane	₩D 0.010	ტ ^ი გე0	80.610		0.155	<0.01	0 0.160	103	

continued on next page

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QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

10-PWN2-SB4-SS13-ITC

	*								<u>ハ</u>
		Duplicates		Spike Recovery					
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
Dipromomethane	ND< 0.010	ND< 0.010	ND< 0.010			ND< 0.010			
Dichlorodifluoromethane	80810	ND δ10	ŊDδ10			θ ⁰ .δ10			
1,1-Dichlorcetname	80.610	ŊD δ.δ10	₩ ^D δ10		0.050	8º.610	0.052	104	
1,2-Dichloroethane	80810	θ ^D δ10	80.81c		0.050		0.050	100	
1,1-Dichloroethylene	8 ⁰ 810	θ ^D δ10	θ.δ10		0.050	ND δ10	0.070	140	
trans-1,2-dichloroethylene	80. 610	θ ^D δ10	ND 610		0.050	ND δ10	0.050	100	
Dichloromethane	80.610	შეგენ მენენენენე	NO δ10		0.050	ΝD 610	0.080	160	
1,2-Dichioropropane	ზ ^D б10	შ ^ი გე	ND δ10		0.050	ND δ10	0.050	100	
1,3-Dichloropropylene	θ ^D δ10	θ.δ ₁₀	ND δ10		0.155	^{NO} δ10	0.160	103	
1,1,2,2-Tetrachloroethane	θ ⁰ δ10	η <u>ο</u> δ10	₩D.610		0.100	θ.δ1c	0.095	95	
1,1,1,2-Tetrachioroethane	θ ^D δ10	θ.δ10	θ ⁰ δ10			^{ტი} გეс			
Tetrachloroethylene	θ	ND δ10	ND δ10		0.100	ND δ10	0.095	95	
1,1,1-Trichloroethane	θ.δ10	80.610	ŊD ₆₁₀		0.050	ND δ10	0.038	76	
1,1,2-Trichloroethane	ND 610	θ.δ ₁₀	N ^D δ10		0.155	ND 610	0.160	103	
Trichicroetrylene	θ ^D δ10	₩₽. 610	₩₽. 6:0		0.050		0.051	102	
Trichlorofluoromethane	Ŋ ^D δ10	θ.σ́1c	ტე _{ნ10}			b.δ10			
Trichloropropane	80.610	^{Ŋ□} ó10	θ ⁰ . ό10			₩D. 610			
Vinyī chloride	9.610	80.610	% ^C δ10			ზ ^ე . გენ			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394		L	ab Sample	36732-11				
Client		F	ield Sampl	e No. <u>13-D</u>	AB2-SB4-SS1	-3-ITC		
Project AF Plant 42 IRP-II		٥	ate Collec	ted	4-28-86			
Client No.		D	ate Receiv	ed	4-30-86 5-6-86			
Laboratory Supervisor Approva	11:	D	ate Analyz	ed				
	_	Q	C Report N	o	8010-29			
Sample Matrix:								
/ / Water (ug/L)			ilution Fa					
/X / Soil (ug/g)		*M	loisture					
/_/ Other								
Spike Source								
	С	oncentrati	on	Retenti	on Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzyl chloride	0.010	ND<0.010						
Bis(2-Chloroethoxy)methane	0.010	ND<0.010						
Bis(2-chloroisopropyl)ether	0.010	ND<0.010						
Bromobenzene	0.010	ND<0.010						
Bromodichloromethane	0.010	ND<0.010						
Bromoform	0.010	ND<0.010				<u> </u>		
Bromomethane	0.010	ND<0.010						
Carbon tetrachloride	0.010	ND<0.010				<u> </u>		
Chloroacetaldehyde	0.010	ND<0.010						
Chloral Chloral	0.010	ND<0.010						
Chlorobenzene	0.010	ND<0.010						
Chloroethane	0.010	ND<0.010						
Chloroform	0.010	ND<0.010						
1-Chlorohexane	0.010	ND<0.010						
2-Chloroethyl vinyl ether	0.010	ND<0.010						
Chloromethane	0.010	ND<0.010						
Chloromethyl methyl ether	0.010	ND<0.010						

ND<0.010

ND<0.010

0.010

0.010

Continued

Dibromochloromethane

Chlorotoluene

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

13-DAB2-SB4-SS1-3-ITC

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroetnane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichlorcethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
<u>[,3-Dichloropropylene</u>	0.010	ND<0.010				
1,1,2,2-Tethachloncethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetracriorcetnylere	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichlorcethane	0.010	ND<0.010				
Inicaloncethylene	0.010	ND<0.010				
Inichionofiuorometrane	0.010	ND<0.010				
Trachionophopane	0.010	ND<0.010				
Viny [®] chloride	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	36732-12
Client	Field Sample No. 1	3-DAB2-SB3-SS1-3-ITC
Project AF Plant 42 IRP-II	Date Collected	4-28-86
Client No.	Date Received	4-30-86
Laboratory Supervisor Approval:	Date Analyzed	5-6-86
	QC Report No.	8010-29
Sample Matrix:		
/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

Continued

13-DAB2-SB3-SS1-3-ITC

	Concentration		Retenti	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-gichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachionoethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.068		13.5		
:,1,2-Trichlorcethane	0.010	ND<0.010				·
Inton orgethylere	0.010	ND<0.010				
Interiorefluoremethare	0.010	ND<0.010				
Thishlansshopane	0.010	ND<0.010				
· Vin, i phleriae	0.010	ND<0.010				

N2 - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No. <u>36732-13</u>						
Client		F	ield Sampl	e No. <u>13-D</u>	AB2-SB2-SS1	-3-ITC	
Project AF Plant 42 IRP-II		D	ate Collec	ted	4-28-86		
Client No.		٥	ate Receiv	ed	4-30-86		
Laboratory Supervisor Approva	11:		5-6-86				
	_	QC Report No. 8010-29					
Sample Matrix: _							
/_/ Water (ug/L)			ilution Fa				
/X / Soil (ug/g)		*M	loisture				
/ Other							
Spike Source							
	C	oncentrati	on	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010					
Bis(2-Chloroethoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010				<u> </u>	
Bromomethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	NO<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010					

0.010

ND<0.010

Continued

Dibromochloromethane

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

13-DAB2-SB2-SS1-3-175

	Co					Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Dipromomethane	0.010	ND<0.010						
Dichlorogifluoromethane	0.010	ND<0.010						
1,1-Dichloroethane	0.010	ND<0.010						
1,2-Dichloroethane	0.010	ND<0.010						
1,1-Dichloroethylene	0.010	ND<0.010						
trans-1,2-gichloroethylene	0.010	ND<0.010						
Dichloromethane	0.010	ND<0.01C						
1,2-Dichlorophopane	0.010	ND<0.010						
1,3-Dichloropropylene	0.010	ND<0.010						
1,1,2,2-Tetrachiorcetnane	0.010	ND<0.010						
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010						
Tetrachloroethylene	0.010	ND<0.010						
1,1,1-Trichloroethane	0.010	0.037		13.4				
1,1,2-Trichlorcethane	0.010	ND<0.010						
Trichlordethylene	0.010	ND<0.010						
<u> Inteniorofluoromethane</u>	0.010	ND<0.010						
Trichloropropare	0.010	ND<0.010						
Vinyl chloride	0.010	ND<0.010						

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36732-14	
Client	Field Sample No.	13-DAB2-SB1-SS1-3-ITC	_
Project AF Plant 42 IRP-II	Date Collected	4-28-86	
Client No.	Date Received	4-30-86	
Laboratory Supervisor Approval:	Date Analyzed	5-6-86	
	QC Report No.	8010-29	
Sample Matrix:			
<u>/</u> / Water (ug/L)	Dilution Factor _	N/A	
/X / Soil (ug/g)	*Moisture		Ė
// Other			
Spike Source			

	С	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010					
Bis(2-Chloroethoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	0.010 מא					
Bromomethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	ND<0.010					
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
1-Chlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Chlorotoluene	0.010	ND<0.010					
Dibromochloromethane	0.010	ND<0.010					

Continued

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

13-DAB2-SB1-SS1-3-ITC

	Co	Concentration		Retent		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichloroaiflucromethane	0.010	ND<0.010				
1,1-Dichlornethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichichoethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
:,1,2,2-Tetracnloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroetnane	0.010	ND<0.010				
Tetrachlorcethylene	0.010	ND<0.010				<u>-</u>
1,1,1-Tricnicroethane	0.010	0.013		13.4		
1,1,2-Trichloroethane	0.010	ND<0.010			-	
Trichloroethylene	0.010	ND<0.010				
Tricrlorofluoromethane	0.010	ND<0.010				
-n:chloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394	Lab Sample No	36732-15
Client	Field Sample No.	10-PWN2-SB4-SS15-3-ITC
Project AF Plant 42 IRP-II		4-28-86
Client No.		4-30-86
Laporatory Supervisor Approval:	Date Analyzed	5-6-86
	QC Report No	8010-29
Sample Matrix:		
// Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	9
/_/ Other		
Spike Source		
	Concentration Ret	tention Time

!	С	oncentrati	on	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chlorcetnoxy)methane	0.010	ND<0.010				1
Bis(2-chloroisopropyl)etner	0.010	ND<0.010				1
Bromopenzene	0.010	ND<0.010				1
Bromodichloromethane	0.010	ND<0.010				<u> </u>
Bromoform	0.010	ND<0.010				<u> </u>
Bromomethane	0.010	ND<0.010				İ
Carpon tetrachionide	0.010	ND<0.010				
Cnloroacetaldehyde	0.010	ND<0.010				
Chlorai	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Cnloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chiorcethyl vinyl ether	0.010	ND<0.010				
<u>Chloromethane</u>	0.010	ND<0.010				1
Chionomethyl methyl ether	0.010	ND<0.010				<u> </u>
Chiorotoluene	0.010	ND<0.010				
Dipromochloromethane	0.010	ND<0.010				

Continued

10-PWN2-SB4-SS15-3-ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorogifluoromethane	0.010	ND<0.010				·	
1,1-Dichloroethane	0.010	ND<0.010					
1,2-Dichloroethane	0,010	ND<0.010					
1,1-Dichloroethylene	Ú.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010				—— - ——-	
Dichloromethane	0.010	ND<0.010					
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachioroethane	0.010	ND<0.010				 	
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachloroethylene	0.010	ND<0.010					
1,1,1-Trichloroethane	0.010	0.039		13.5			
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Trichlorofluoromethane	0.010	ND<0.010					
Trichloropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

 \mbox{ND} - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		L	ab Sample	No.	36732-16		
Client			•		WN2-SB4-SS1	-3-IIC	
Project AF Plant 42 IRP-II		Date Collected 4-28-86					
Client No.			ate Receiv				
Laboratory Supervisor Approva		D	ate Analyz	ed	5-6-86		
			C Report N				
Sample Matrix:							
<pre>/ Water (ug/T)</pre>		D	ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		★M	oisture		· · · · · · · · · · · · · · · · · · ·		
/_/ Other			_ 		·		
Spike Source							
	C	oncentrati	en	Retenti	on Time		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloriae	0.010	ND<0.010					
Bis(2-Chloroetnoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)etner	0.010	ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010				<u> </u>	
Bromoform	0.010	ND<0.010				<u> </u>	
Bromomethane	0.010	ND<0.010				<u> </u>	
Carpon tetrachloride	0.010	ND<0.010					
Chloroacetaldehyde	0.010	ND<0.010					
Chioral	0.010	ND<0.010					
Chloroberzene	0.010	ND<0.010				i .	
Chloroethane	0.010	ND<0.010					
Chioroform	0.010	ND<0.010					
1-Chiorohexane	0.010	ND<0.010					
2-Chioroethyl vinyl ether	0.010	ND<0.010					

ND<0.010

ND<0.010

ND<0.010

ND<0.010

0.010

0.010

0.010

0.010

Continued

Dipromochioromethane

Chioromethyl methyl ether

Chloromethane

Chlorotoluene

10-PWN2-SB4-SS1-3-ITC

	Co	ncentratio	n	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichloroaifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroetrane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dignloropropylene	0.010	ND<0.010				
1,1,2,2-Tetracnioroetnane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachlorcethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Tricrioroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichlorophopane	0.010	ND<0.010				
Viryl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		Lab Sample No						
Client		F	ield Sampl	e No. <u>10-</u> F	WN2-SB3-SS1	-3-ITC		
Project AF Plant 42 IRP-II		۵	ate Collec	ted	4-28-86 4-30-86			
Client No.		0	ate Receiv	red				
Laboratory Supervisor Approva	11:	0	5-6-86	5-6-86				
	_	Q	C Report N	10.	8010-29			
Sample Matrix:								
/_/ Water (ug/L)			lilution Fa	-				
<u>/X</u> / Soil (ug/g)		*!	loisture					
/_/Other	- -							
Spike Source			······································					
	C	oncentrati	on	Retenti	on Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzyl chlomide	0.010	ND<0.010						
Bis(2-Chlorcethoxy)methane	0.010	ND<0.010						
Bis(2-cnloroisopropyl)etner	0.010	ND<0.010						
Bromobenzene	0.010	ND<0.010						
Bromodichloromethane	0.010	ND<0.010						
Bromoform	0.010	ND<0.010	<u></u>			<u> </u>		
Bromometrane	0.010	ND<0.010			<u> </u>	<u> </u>		
Carpon tetrachloride	0.010	ND<0.010				<u> </u>		
Crionoacetsidenyde	C.010	ND<0.010		<u> </u>		<u> </u>		
Cnlora'	0.010	ND<0.010						
Cnloropenzere	0.010	ND<0.010				1		
Chloroethane	0.010	ND<0.010		ļ 		1		
Cnloroform	0.010	ND<0.010		ļ		<u> </u>		
1-Chlorohexane	0.010	ND<0.010		<u> </u>		<u> </u>		
2-Chloroetnyi vinyi ether	0.010	ND<0.010	ļ <u></u>		ļ			
Chloromethane	0.010	ND<0.010		i		-		
Chloromethyl methyl ether	0.010	ND<0.010				 		
Chionotoluene	0.010	ND<0.010	!			ļ		

0.010 ND<0.010

Continued

Dibromochloromethane

10-PWN2-SB3-SS1-3-ITO

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichionoethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-01chlorophopylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachionoethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichlordethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Intenloropropare	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES JOD NO56394		L	ab Sample	NO	36/32-18		
Client	pient			e No. 10-F	PWN2-SB2-SS1	-3-ITC	
Project AF Plant 42 IRP-II		Ω	ate Collec	ted	4-28-86		
Client No.		0	ate Receiv	red	4-30-86		
Laboratory Supervisor Approva	: i	ε	ate Analyz	:ed	5-6-86		
	_	Ç	C Report N	lo	8010-29		
Sample Matrix:							
<pre>// Water (ug/L)</pre>			ilution Fa				
 -		*N	oisture				
Spike Source							
		Concentrati	on	Retenti	ion Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
	1	ND<0.010					
Sis(2-Chioroethoxy)methane		ND<0.010					
Bis(2-chloreisepropyl)ether		ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010					
Bromomethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	ND<0.010					
Chloroacetaldenyde	0.010	ND<0.010	!			_	
Chloral	0.010	ND<0.010				<u> </u>	
Chloropenzene	0.010	ND<0.010			<u> </u>		
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	ND<0.010					
i-Cnlorohexane	0.010	ND<0.010					
2-Chloroethyl vinyl ether	0.010	ND<0.010		<u> </u>			
Chloromethane	0.010	ND<0.010					
Chloromethyl methyl ether	0.010	ND<0.010					
Cnlorotoluene	0.010	ND<0.010					

0.010 NO<0.010

Continued

Dibromochloromethane

10-PWN2-SB2-SS1-3-ITC

	Со	Concentration			on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluorometrane	0.010	ND<0.010				
1,1-Dichloroetname	0.010	ND<0.010				
1,2-Dichlordethane	0.010	ND<0.010				
1,1-Dronionoethylene	0.010	ND<0.010				
trans-1,2-dichlorcethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachionoethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	0.018		13.5		
1,1,2-Trionionoetname	0.010	ND<0.010				
Trichlorsethylere	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trignionopropane	0.010	ND<0.010				
Viny chloride	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Jcp No. 56394		Ł	ab Sample	No.	36732-19		
Client					WN2-SB1-SS1	-3-ITC	
Project AF Plant 42 IRP-II					4-28-86		
Client No.		Date Received			4-30-86		
Laboratory Supervisor Approva		0	ate Analyz	ea	5-6-86		
	_	Ç	C Report N	o	8010-29		
Sample Matrix:							
<u>/</u> / Water (ug/□)		C	dilution Fa	ctor	N/A		
<pre>/X / Soil (ug/g)</pre>			loisture				
// Other							
Spike Source							
		oncentrati	on	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyi chloriae	0.010	ND<0.010					
8-s(2-Cnicroethoxy)methane	0.010	ND<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromopenzene	0.010	ND<0.010					
Bromodicaloromethane	0.010	ND<0.010					
Bromoform	0.010	ND<0.010		 -			
Bromomethane	0.010	ND<0.010					
Carbon tetrschloride	0.010	ND<0.010					
Chloroacetaldenyde	0.010	ND<0.010					
Chinai	0.010	ND 40 010					

<u>| Cniorai</u> 0.010 | ND<0.010 | Chloropenzene 0.010 ND<0.010 ------0.010 | ND<0.010 Chioroethane Chloroform 0.010 ND<0.010 ND<0.010 0.010 ---1-Chioronexane ------2-Shioroethy: vinyl ether 0.010 ND<0.010 ------0.010 ND<0.010 ---Chloromethane Chicromethy: methyl ethen 0.010 ND<0.010 0.010 ND<0.010 Chicrotoluene ------0.010 ND<0.010 ------Dipromochioromethane ---

Continued

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

10-PWN2-SB1-SS1-3-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorogifluoromethane	0.010	ND<0.010				
1.1-Dichloroethane	0.010	ND<0.010				
1.2-Dichloroethane	0.010	ND<0.010				
1,1-Dichlordethylene	0.010	ND<0.016				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichioromethane	0.010	ND<0.010				
1,2-Dicnloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachionoethane	0.010	ND<0.010				
1,1.1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachioroethylene	0.010	ND<0.010				
i 1,1,1-Trichloroethane	0.010	0.075		13.5		
1,1,2-Trionloroethane	0.010	ND<0.010				
Trichlondetnylene	0.010	ND<0.010				
Thishlorofluonomethane	0.010	ND<0.010				
Trichlonophopane	C.01C	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

 $[\]mbox{ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES JOD NO. 56394		L	ab Sample	No	36732-20	Duplicat
Client		F	ield Sampi	e No. <u>10-F</u>	WN2-SB4-SS1	-3-ITC
Project AF Plant 42 IRP-II	·	0	ate Collec	ted	4-28-86	
Client No.			ate Receiv			
Laboratory Supervisor Approva	17:		ate Anaiyz			
***	<u> </u>	Q	C Report N	lo	8010-29	
Sample Matrix:						•
\angle / Water (ug/L)			ilution Fa	ictor	N/A	
/X / Soil (ug/g)		*h	loisture			}
/ / Other						
Spike Source						
	C	oncentrati	on	Retenti	on Time	_
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Cnloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisspropyl)ether	0.010	ND<0.010				
Bromopenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldenyde	0.010	ND<0.010				
Cnloral	0.010	ND<0.010				<u> </u>
Chioropenzene	0.010	ND<0.010		<u> </u>		<u> </u>
Chicroethane	0.010	ND<0.010				<u>i</u>
Chloreform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl etner	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				<u> </u>
Cnloromethyl methyl etner	0.010	ND<0.010				
Chiarataluene	0.010	ND<0.010			~	
Dipromocnioromethane	0.010	ND<0.010				

Continued

10-PWN2-SB4-SS1-3-ITC Duplicate

	Co	ncentratio	n	Retenti	on Time	
, Compauna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorosifluoromethane	0.010	ND<0.010				
1,1-Dishloncethane	0.010	ND<0.010			~	
1,2-Dignioncethane	0.010	ND<0.010				
12,159ton1onverny1ena	0.0:0	ND<0.010				
thans-1,1-dichlondethy ene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichlorophopane	0.010	ND<0.010				
1,3-Dichlorophopylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetracrioncetrans	0.010	ND<0.010				
Tethacr Tonoethylene	0.010	ND<0.010				
1,1,1-TrichTorcetnane	0.010	ND<0.010				
1,1,2-Trichlondethane	0.010	ND<0.010				
Thishloroethylene	0.010	ND<0.010				
 Interic nofluonemethane	0.010	ND<0.010				
Trichloropropane	C.010	NO<0.010				
Vinyl chicnice	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>		L	ab Sample	No	36732-21	Spike
Client		F	ield Sampl	e No. <u>10-</u> P	WN2-SB4-SS1	-3-ITC
Project AF Plant 42 IRP-II		ם	ate Collec	ted	4-28-86	
Client No.		ם	ate Receiv	ed	4-30-86	
Laboratory Supervisor Approva	1]:	D	ate Analyz	ed	5-6-86	
		Q	C Report N	o	8010-29	
Sample Matrix:						
<pre>// water (ug/L)</pre>			ilution Fa			
<u>/X</u> / Soil (ug/g)		*M	oisture			۶
/_/ Other						
Spike Source						
1	C	oncentrati	on	Retenti	on Time	<u> </u>
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)etner	0.010	ND<0.010				<u> </u>
Bromocenzene	0.010	ND<0.010				
Bromodich?oromethane	0.010	0.049		14.2		
Bromeform	0.010	0.054		19.5		
Bromomethans	0.010	ND<0.010				
Carpon tetracrloride	0.010	0.045		13.8		
Crionoacetaidenyde	0.010	ND<0.010				
Chioraì	0.010	ND<0.010				
Chichopenzene	0.010	0.052		24.3		
Chloroethane	0.010	ND<0.010				
Cnloraform	0.010	0.050		11.5		
1-Chlorchexane	0.010	ND<0.010				
2-Chidroetnyî vinyî etner	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chichgmethyi methyi ethen	0.010	ND<0.010				

0.010

0.010

ND<0.010

0.160

17.0

Continued

Dipromochioromethane

Chlorotoluene

10-PWN2-SB4-SS1-3-ITC Spake

	Со	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorodifluoromethane	0.010	ND<0.010					
1,1-Dichioroethane	0.010	0.052		10.3			
1,2-Dichloroethane	0.010	0.050		12.2			
hi,i-Graniancethylene	c.010	0.070		9.2			
trans-1,2-dronicroethylene	0.010	0.050		11.1			
Dichlonomethane	0.010	0.080		6.6			
1,2-Dichloropropane	0.010	0.050		15.6			
1,3-8janlanaphapylene	0.010	0.160		17.0			
1,1,2,2-Tetrachioroethane	0.010	0.095		21.9			
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachioroethylene	0.010	0.095		21.9			
1,1,1-Trichleroethane	0.010	0.038		13.4			
1,1,2-Trichloroetname	0.010	0.160		17.0			
Inighloroethylene	0.010	0.051		16.4			
Trichlorofluoromethane	0.010	ND<0.010					
Trichleropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

 $^{{\}tt ND}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

Lab Sample Nos. 10-PWN2-SB1-	-SS1-3-I	TC	Ç	C Repor	t No.	8	020-24		
Duplicates 36732-11, 36732-	-15		[ate Ana	iyzed -	5	-15-86		
Spike 36732-16				aborato					
Sample Matrix:					,				
/ Water (ug/L)			 C	ilution	Factor		N/A		
/X / Soil (ug/g)				loisture					پ
/ Otner				10 13 CUI C					
Spike Source 10 ppp 602	Standar								
	1	T							1
	;	Du	plicat	es	S	pike Re	covery		-
Compound	Blank	C1		RPD	54	SR	SSR	Př	Nites
	ND<	T	ND<						
Benzene	0.005		0.005		0.050	<0.005	0.038	76	
	ND<	>GM	ND<	j i					
Chloropenzene	0.005	+	0.005		0.053	<0.005	0.041	77	!
	ND<	1	ND<						1
1,2-Dichioropenzene	0.005	+			0.054	<0.005	0.040	74	-
	ND<	ND<						_	1
1,3-Dichlorobenzene	0.005	+			0.056	<0.005	C.041	73	· · · · · · · · · · · · · · · · · · ·
	ND<	1	ND<						1
1,4-Dichicrobenzene	0.005		0.005		0.053	<0.005	0.040	75	
	ND<	ND<	ND<		0.054	.0.005	0 641	7.6	1
Etnyl benzene	0.005 ND<		0.005		0.054	<0.005	0.041	16	-
Toluene	0.005	1	ND<		0.050	<0.005	0.040	72	1
rordene	ND<	+	ND<		0.056	KU.005	0.042	12	· · · · · ·
 Xylenes (Dimethyl benzene)	1	1	ı			<0.005			1
Ayrenes (Dimethy) benzene)	10.005	0.000	0.003			70.003			
									
			i						:

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		Lab Sample No. 36732-6						
Client	·	F	ield Sampl	e No. <u>13-D</u>	AB2-SB1-SS	1-3-ITC		
Project AF Plant 42 IRP-II		0	ate Collec	ted	4-28-86			
Client No.					4-30-86			
Laboratory Subervisor Approv		Date Analyzed5						
		QC Report No. 8020-24						
Sample Mathix:								
/ Water (ug,L)			dilution Fa	ictor	N/A			
<u>/X</u> / Soil (ug/g)		жM	loisture					
Otner			· · · · · · · · · · · · · · · · · · ·	··-				
Spike Sounce								
	T		 	Γ				
			n		ention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Senzene	0.005	ND<0.005						
Chloropenzene	0.005	ND<0.005						
1,2-Dichloropenzere	C.005	ND<0.005						
1	1	115 10 10 10						
1,3-Dichloropenzene	0.005	ND<0.005	!					
: [1,4-Dichloropenzens	0.005	MD<0.005						
Ethyl penzene	0.005	 ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl bengene)	0.005	ND<0.005						
	-					 		

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		Ĺ	ab Sample	No	36732-7			
Client		F	ield Sampl	e No. <u>10-P</u>	WN2-SB3-SS	1-3-IT		
Project <u>AF Plant 42 IRP-II</u>		D	ate Collec	ted	4-28-86			
Client No.		D	ate Receiv	ea	4-30-26			
Laboratory Supervisor Approva	aī:	Date Analyzed <u>5-15-86</u>			5-15-86			
		Q	C Report N	0.	8020-24			
Sample Matrix:								
<pre></pre>		D	ilution Fa	ctor	N/A	-		
<u>/X</u> / Soil (ug/g)		*M	oisture					
/ Other								
Spike Source								
	Concentration			Retenti	or Time	me		
Compound				Column 1		Notes		
Benzene	0.005	ND<0.005						
Chlorobenzene	0.005	N5.40.005				<u> </u>		
1,2-Dichlorobenzene	0.005	ND<0.005						
1,3-Dichloropenzene	0.005	ND<0.005						
1,4-Dichloropenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	ND<0.005						
	ļ							
		1	İ	1	i	ŀ		

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No	36732-8	
Client	· · · · · · · · · · · · · · · · · · ·	Field Sample No. 10-PWN2-SB4-SS				15-3-ITC
Project AF Plant 42 IRP-II						
Client No.	~					
Laboratory Supervisor Approva						
				10		
Sample Matrix:						
<pre>/_ / Water (ug/L)</pre>		D	ilution Fa	ictor	N/A	
X / Soil (ug/g)		*M	oisture			
<u>/</u> / Otner						
Spike Source						
	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Eenzene	0.005	ND<0.005				
Cnlorocenzene	0.005	ND<0.005				
 1.2-Dichloropenzene	0.005	ND<0.005				
1,3-Dictionobenzens	0.005	ND<0.005				
1,4-Bichloropenzene	0.005	ND<0.005				
Etny' penzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				
			+			
	i	i	1	1	i	i

NE - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Etnyl benzene

xylenes (Dimethyl benzene)

Toluene

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No56394		L	ab Sample	No	36732-9	
Client		F	ield Sampl	e No. <u>10-P</u>	WN2-SB4-SS	1-3-ITC
Project AF Plant 42 IRP	-11	Date Collected			4-30-86	
Client No.						
Laboratory Supervisor App						
			C Report N			
Sample Matrix:			·			
/ _/ Water (ug/l)		٥	ilution Fa	ctor	N/A	
/X / Soil (ug/g)						
/ Other						
Spike Source				· · · · · · · · · · · · · · · · · · ·		
;	Co	ncentratio	n	Ret e nti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				

ND<0.005

ND<0.005

ND<0.005

NC - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

0.005

0.005

0.005

ES Job No56394		Lab Sample No36732-10				
Client		Date Collected 4-28-86				
Project AF Plant 42 IRP-II						
Client No.						
Laboratory Supervisor Approval:		Date Analyzed 5-15-86				
		Q	C Report N	o	8020-24	
Sample Matrix:						
<pre>/ Water (ug/L)</pre>		D	ilution Fa	ctor	N/A	
<u>/X</u> / Soil (ug/g)		★M	loisture			
/ / Other						
Spike Source				 		
		ncentratio		Retenti	on Time	
Compound					Column 2	Notes
1						1
Benzene	0.005	ND<0.005				
Cnloropenzene	0.005	ND<0.005				
1,2-Dichloropenzene	0.005	ND<0.005				
 1,3-Dichloropenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzers	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimothyl penzene)	0.005	ND<0.005				
!						

NO - This compound was not detected; the limit of detection for this analysis is less than the armust stated in the table above.

ES Jop No56394		L	ab Sample	No	36732-11		
Client		Field Sample No. <u>10-PWN2-SB1</u>				1-3-ITC	
Project AF Plant 42 IRP-II		D	Date Collected 4-28-86			5	
Client No.							
Laboratory Supervisor Approva					5-15-86		
			C Report N				
Sample Matrix:							
/ Water (ug/L)		D	ilution Fa	ctor	N/A		
/X_/ Soil (ug/g)		*M	oisture				
// Otner							
Spike Source			···-				
	Co	Concentration			on Time		
Compouna	Det Lim	Column 1	Column 2			Notes	
Benzene	0.005	ND<0.005					
Cnlorobenzene	0.005	ND<0.005					
1,2-Dicnloropenzene	0.005	ND<0.005					
1,3-Dichloropenzene	0.005	ND<0.005				<u> </u>	
1,4-Dichlorobenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005				!	
Xylenes (Dimethyl benzane)	0.005	ND<0.005					
				ļ			
	1						
1		1					

NC - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		L	ab Sample	No	36732-12		
Client		Field Sample No. <u>13-DAB2-S</u>					
Project AF Plant 42 IRP-II							
Client No.					4-30-86		
Laboratory Supervisor Approv		D	ate Analyz	ed	5-15-86		
					8020-24		
Sample Matrix:							
/_/ water (ug/L)		D	ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		*M	loisture				
<u>/</u> / Other				<u> </u>			
Spike Source		· · · · · · · · · · · · · · · · · · · 					
	1			<u> </u>		1	
	Co	ncentratio	n	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichlorobenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichlonopenzene	0.005	ND<0.005					
Ethyl penzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005			~		
Xylenes (Dimethy) behzene)	0.005	ND<0.005					
1	1	<u> </u>			T	1	

 N^{\prime} - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No	36732-13	
Client		F	ield Sampl	e No. <u>13-</u> [AB2-SB3-SS	<u> </u>
Project <u>AF Plant 42 IRP-II</u>		D	4-28-86	86		
Client No.		Date Received 4-30-86				
Laboratory Supervisor Approv		D	ate Analyz	ea	5-15-86	
		Q	C Report N	o	8020-24	
Sample Matrix:						
<pre> / water (ug/L)</pre>		פ	ilution Fa	ictor	N/A	
<u>/X</u> / Soil (ug/g)		*M	loisture			
Other						
Spike Source						
<u></u>				1		
!	Co	ncentratio	n	Retention Time		
Compound					Column 2	Notes
Benzene	0.005	ND<0.005				
Onlanapenzene		ND<0.005				
1,2-Dichloroperzene	0.005	ND<0.005				
1,3-Bionigropenzene	0.005	ND<0.005				
1.4-Dichloropenzera	0.005	ND<0.005				
Etnyl benzene	0.005	ND<0.005				
Toluene	0.005	ND<0.005				
Xylenes (Dimethyl benzene)	0.005	ND<0.005				

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NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Jep No. 56394		Lap Sample No. 36732-14					
Client		Field Sample No. <u>13-DAB2-S</u>			AB2-SB4-SS	1-3-175	
Project <u>AF Plant 42 IRP-II</u>		Date Collected 4-28-86					
Client No.							
Laboratory Supervisor Approval:		Date Analyzed 5-15-86					
		Q	C Report N	o	8020-24		
Sample Mathix:							
water (ugh)		D	niution Fa	ctor	N/A		
_> Soni (ug g)		*M	oisture			%	
Otren			·				
Spike Sounce							
	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	C.005	NO<0.005					
: Chloropenzene	0.005	ND<0.005					
1,2-Dichloropenzare	0.005	NO<0.005					
, 1,3-Dian arabenzene	0.005	ND<0.005				,	
1,4-0-chioropenzane	0.005	ND<0.005					
 Etnyl cenzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl penzene)	0.005	ND<0.005					
-	<u> </u>	<u> </u>					
1)		i	;		

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No56394		L	ab Samole	Nc	36732-15	<u>Duplica</u>	
Client		Field Sample No. 10-PWN2-SB1-SS1				3-3-ITC	
Project <u>AF Plant 42 IRP-II</u>		Date Collected 4-28-86					
Client No.							
Laboratory Supervisor Approva					5-15-86		
		Q	C Report N	o	8020-24		
Sample Matrix:							
/ Water (ug/L)		D	ilution Fa	ctor	N/A		
/X / Soil (ug/g)		*M	oisture				
/_/ Other						··	
Spike Source		· · · · · · · · · · · · · · · · · · ·					
r	Co	ncentratio	·n	Retenti	on Time		
Compound			Column 2			Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
 1,3-Dichloropenzene	0.005	ND<0.005					
1,4-3:chloropenzene	0.005	ND<0.005					
Ethy: benzene	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl benzene)	0.005	ND<0.005					
:							
					ļ	1	

NC - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		L	ab Samole	No	36732-15	Spike	
Client		Field Sample No. 10-PWN2-SB1-SS1-3					
Project AF Plant 42 IRP-II		D	ate Collec	red	4-28-86		
Citent No.			ate Receiv				
Laboratory Supervisor Approve	aì:		ate Analyz				
			C Report N				
Sample Mathix:							
/ water (ug k)		D	ilution Fa	ictor	N, A		
<u></u>							
// Other							
Spike Source							
!	Co	ncentratio	.n.	Datent	on Time	T -	
: Compound		Column 1				Notes	
Benzene	0.005			2.5			
	0.005	0.041		7.8			
1.2-Dronlonopenzere	0.005	0.040		14.3			
11,3-OronBonopenzene	0.005	0.041		12.8			
_1,4-Dichloroperzene	0.005	0.040		12.6		 	
[Etny] benzene	0.005	0.941		7.3			
Toluene	0.005	0.042		4.7			
Xylenes (Dimethyl benzene)	0.005						
\$							
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	1	!		1		1	

[%] - This compound was not detected; the limit of detection for this analysis is less tran the amount stated in the table above.

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ANALYTICAL SERVICES



CERTIFICATE OF ANALYSIS

Engineering Science 57 Executive Park So., Suite 590 Atlanta, GA 30329-2213 October 9, 1986

Attn: Mark Guthrie

Page 1 of 35

May 1, 1986

56394

36762/rjc

REVISED REPORT

Eight (8) soil samples.

Sample Identification	<u>Date</u>	Time
3-ERA7-SB1-SS3-5-ITC	4-29-86	0800
3-ERA7-SB1-SS8-20-ITC	4-29-86	0800
3-ERA7-SB2-SS4-7.5-ITC	4-29-86	0915
3-ERA7-SB2-SS8-20-ITC	4-29-86	0915
3-ERA7-SB3-SS3-5-ITC	4-29-86	1030
3-ERA7-SB3-SS8-20-ITC	4-29-86	1030
3-ERA7-SB4-SS3-5-ITC	4-29-86	1130
3-ERA7-SB4-SB8-20-ITC	4-29-86	1130

The samples were analyzed for purgeable halocarbons using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a Hall electrolytic conductivity detector. The samples were prepared according to EPA Method 8010.

The samples were also analyzed for Aromatic volatile organic compounds using a Tekmar liquid sample concentrator and a Varian 6000 gas chromatograph equipped with a photoionization detector. The samples were prepared according to EPA Method 8010. The results are listed on the following summary sheets.

The samples were analyzed for total petroleum hydrocarbons (TPH) by infrared spectroscopy technique (EPA procedure 418.1). The results are listed in Table I.

William P. Fassinger

Wyllan F. Fur.

Chemist

Eric W. Lindsay Laboratory Manager I THIS PAGE INTENTIONALLY LEFT BLANK

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Table I

SAMPLE: ES Job No.: 56394, AF Plant 42 DATE OF ANALYSES: 5/22/86

Sample Identification	Total Oil and Grease (ug/g)
3-ERA7-SB1-SS3-5-ITC	ND<2
3-ERA7-SB2-SS4-7.5-ITC	ND<2
3-ERA7-SB3-SS3-5-ITC	ND<2
3-ERA7-SB1-SS8-20-ITC	ND<2
3-ERA7-SB4-SS3-5-ITC	45
3-ERA7-SB3-SS8-20-ITC	ND<2
3-ERA7-SB4-SS6-20-ITC	ND<2
3-ERA7-SB2-SS8-20-ITC	ND<2
3-ERA7-SB2-SS8-20-ITC Duplicate	ND<2
3-ERA7-SE2-SS8-20-ITC Spike	24
Spike Concentration	20

Relative Percent Difference - N/A

Percent Recovery - 120°%

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Engineering Science Page 3

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

Lab Sample Nos. 3-ERA7-SB4-SS3-5-ITC	QC Report No	8010-30	
Duplicates <u>36762-12, 36762-1</u> 3	Date Analyzed	5-7-86	
Spike <u>36762-14</u>	Laboratory Superv	isor Approval:	
Sample Matrix:			
/_/ Water (ug/L)	Dilution Factor _	N/A	
<u>/X</u> / Soil (ug/g)	*Moisture		%
// Other			
Spike Source			

					 				
		Duplicates			Spike Recovery				
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	ND<			ND<			
Benzyl chloride	0.010		0.010			0.010			
Bis(2-Chloroethoxy)methane	₩D.б10	0.6 10	$\overline{}$			80.δ10			
Bis(2-Chloroisopropyl)ether	ND δ10	₩D. 610	θ.δ10			ND δ10			
Bromobenzene	80.δ10	₩D. 610	₩D.610			₩º. 610			
Bromodichloromethane	ND 610	θ.δ ₁₀	₩ ⁰ δ10		0.050	8Dδ10	0.051	102	
Bromoform	80610	გი ₆₁₀	₩ ^D б10		0.050	θ ^D δ10	0.050	100	
Bromomethane	8º.610	ND δ10	₩º.610			₩D.610			
Carbon tetrachloride	80. δ10	₩D. δ10	₩º.610		0.050	ND 510	0.051	102	
Chloroacetaldehyde	8º. 610		₩º.610			₩D. 610			
Chloral	₩₽.δ10	ND δ10	80.δ10			₩ ⁰ δ10			
Chlorobenzene	8ºδ10	θ.6 ₁₀			0.050	ტე _{გე}	0.047	94	
Chloroethane	₩ ^D δ10	θ ^D δ10	₩D.δ10			ND δ10			
Chloroform	ND δ10		ND 6.610		0.050	ტე _{გე}	0.051	102	
1-Chlorohexane	θ ^D δ10	θ.δ1c	₩ <u>D</u> б10			80.δ10			
2-Chloroethyl vinyl ether	θ. δ ₁₀	₩º. 610				ŊD.δ10			
Chloromethane	ზ ^ი გენ	θ ⁰ δ10	₩D.610			ND δ10			
Chloromethyl methyl ether	80. ó10	₩ ^D δ10				ND δ.δ10			
Chlorotoluene	θ ^D . δ10	θ ^D .δ10	₩D.δ10			₩ ^D δ10			
Dibromochloromethane	ND δ10	θ ^D δ10	ცეენე დ		0.155	ND δ10	0.150	97	

continued on next page

QUALITY CONTROL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-SB4-SS3-5-ITC

	1	***							
]	Duplicates		Spike Recovery					
Compound	Blank	C1	C2	RPD	SA	SR	SSR	PR	Notes
	ND<	ND<	>ON			ND<			
Dipromometnane	0.010		0.010			0.010			
Dichlorogifluoromethane	8º. 610	80.δ1c	8 ^D δ10			₩D. 610			
1,1-Dichloroethane	80.610	ND δ10	ND δ10		0.050	₩D. б10	0.049	98	
1,2-Dichloroethane	8.0510	გე _{გე}	8º.610		0.050	ტე _{ბ10}	0.048	96	
1,1-Dichloroethylene	θ.δ10	θ.δ10	0.610		0.050	8.610	0.045	90	
trans-1,2-dichloroethylene	80.610	ND δ10	₩D.δ10		0.050	₩D.б10	0.049	98	
Dichloromethane	8º. 810	θ.δ ₁₀	θ ^D δ10		0.050	NDδ10	0.055	110	
1,2-Dichloropropane	შ ^ი გეი	80.δ1c	ზ ^ი გ10		0.050	θ. δ10	0.048	96	
1,3-Dichloropropylene	θ.δ ₁₀	ŊD.δ10	ŊD.δ10		0.045	80.810	0.045	100	
1,1,2,2-Tetrachloroethane	ŊD.δ10	θ.δ ₁₀	₩ ^D δ10		0.100	0.δ10	0.089	89	
1,1,1,2-Tetrachloroethane	₩ ^D .€10	θ.δ ₁₀	₩D.Ó10			θ.δ ₁ c			
Tetrachloroethylene	8 ^D .δ10	შ ^ი გე	₩D.б10		0.100	₩D.61c	0.089	89	
1,1,1-Trichioroethane	8º810	8º610	₩D. 810		0.050	Ŋ ^D δ10	0.070	140	
1,1,2-Trichloroethane	ტე _{გე}	ზენ1c	ND გ1c		0.155	80.610	0.150	97	
Trichloroethylene	80.610	₩ ^D δ1c	₩ ^C б10		0.050	ND δ10	0.048	96	
Trichloroflucromethane	80.610	ŊD. 0.010	θ.δ10			80.810			
Trichloropropane	ტე _გ ე	₩º.610	₩ ^D δ10			შეგ ₁₀			
Vinyl chloride	8º. 610	80610	ტეგენ მეგენ			₩ ^D δ10			

^{* -} If % moisture is reported, results are presented on a dry-weight basis.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No.	36762-5
Client	Field Sample No. 3	B-ERA7-SB1-SS3-5-ITC
Project AF Plant 42 IRP-II	Date Collected	4-29-86
Client No.	Date Received	5-1-86
Laboratory Supervisor Approval:	Date Analyzed	5-7-86
	QC Report No.	8010-30
Sample Matrix: _		
// Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	
// Other		
Spike Source		

	Concentration			Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010			<u></u>	
Chioroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chloropenzene	0.010	ND<0.010				<u> </u>
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorchexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				<u> </u>
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ethen	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010	<u></u>		<u> </u>	

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics Sw Method 8010

3-ERA7-SB1-SS3-5-ITC

	Co	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Dipromomethane	0.010	ND<0.010					
Dichlorogifluoromethane	0.010	ND<0.010					
1,1-Dichloroetnane	0.010	ND<0.010					
1,2-Dichloroethane	0.010	ND<0.010					
1,1-Bichloroethylene	0.010	ND<0.010					
trans-1,2-dichloroethylene	0.010	ND<0.010					
Dichloromethane	0.010	ND<0.010					
1,2-Dichloropropane	0.010	ND<0.010					
1,3-Dichloropropylene	0.010	ND<0.010					
1,1,2,2-Tetrachloroethane	0.010	ND<0.010					
1,1,1,2-Tetrachloroethane	0.010	ND<0.010					
Tetrachicroethylene	0.010	ND<0.010					
1,1,1-Trichlorcethane	0.010	0.030		13.5			
1,1,2-Trichloroethane	0.010	ND<0.010					
Trichloroethylene	0.010	ND<0.010					
Inichlorofluoromethane	0.010	ND<0.010					
Intonioropropane	0.010	ND<0.010					
Vinyl chloride	0.010	ND<0.010					

 $^{{\}tt ND}$ ~ This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36762-6
Client	Field Sample No.*	3-ERA7-SB1-SS8-20-ITC
Project <u>AF Plant 42 IRP-II</u>	Date Collected	4-29-86
Client No.	Date Received	5-1-86
Laboratory Supervisor Approval:	Date Analyzed	5-7-86
	QC Report No.	8010-30
Sample Matrix:		
// Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	9
// Other		
Spike Source		

	Concentration			Retenti]	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				<u> </u>
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				<u> </u>
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

^{* -} Sample bottle I.D.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

*3-ERA7-SB1-SS8-20-170

	Concentration			Retenti		
Compouna	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichlorcethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachlordethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trickloroflyoromethane	0.010	ND<0.010				
Trichlorophopane	0.010	ND<0.010				
Vanyl chloride	0.010	ND<0.010				

^{* -} Sample bottle I.D.

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36762-7
Client	Field Sample No.	3-ERA7-SB2-SS4-7.5-ITC
Project AF Plant 42 IRP-II	Date Collected _	4-29-86
Client No.	Date Received	5-1-86
Laporatory Supervisor Approval:	Date Analyzed	5-7-86
	QC Report No	8010-30
Sample Matrix:		
<pre>// Water (ug/L)</pre>	Dilution Factor	N/A
<u>/X / Soil (ug/g)</u>	*Moisture	
/ Other		
Spike Source		
<pre>/_/ Water (ug/L) /X / Soil (ug/g) /_/ Other</pre>	Dilution Factor _	N/A

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroetnoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carpon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chloropenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	NO<0.010				
Chloromethane	0.010	ND<0.010				
Chichomethy' methy' ethen	0.010	NO<0.010				
Chlorotoluene	0.010	ND<0.010				
Dipromochlonomethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-SB2-SS4-7.5-ITC

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				 -
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2~Tetrachloroethane	0.010	ND<0.010				
<u>Tetrachloroethylene</u>	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36762-8
Client	Field Sample No.	3-ERA7-SB2-SS8-20-ITC
Project AF Plant 42 IRP-II	Date Collected _	4-29-86
Client No.	Date Received	
Laboratory Supervisor Approval:	Date Analyzed	5-7-86
	QC Report No.	8010-30
Sample Matrix:		
// Water (ug/t)	Dilution Factor _	N/A
/X / Soil (ug/g)	*Moisture	
/_/ Other		
Spike Source		

	Concentration			Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroiscpropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.019	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-SB2-SS8-20-1 L

,	Со	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromamethane	0.010	ND<0.010				
Dicrlohodifluonomethane	0.010	ND<0.010				
1,1-Bichlorpethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1.1-Dicriproetnylene	C.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dishloromethane	0.010	ND<0.010				m
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachlomoethylene	0.010	ND<0.010				
1,1,1-Trichloroethage	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Inicrlongethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Intenieropropane	0.010	ND<0.010				
Vinyl phlonide	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. 56394	Lab Sample No _	36762-9
Client	Field Sample No.	3-ERA7-SB3-SS3-5-ITC
Project AF Plant 42 IRP-II	Date Collected _	4-29-86
Client No.	Date Received	5-1-86
Laboratory Supervisor Approval:	Date Analyzed	5-7-86
	QC Report No	8010-30
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	\$
/_/ Other		
Spike Source		

	С	oncentrati	on	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromeform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl metry' ether	0.010	ND<0.010				
Chlorotaluene	0.010	ND<0.010				
Dipromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-SB3-SS3-5-11

,	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-D:cnloroetname	0.010	ND<0.010				
1,2-Dichloroethare	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichicromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethare	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Intoblopoethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropane	C.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36762-10
Client	Field Sample No	3-ERA7-SB3-SS8-20-ITC
Project AF Plant 42 IRP-II	Date Collected _	4-29-86
Client No.	Date Received	5-1-86
Laboratory Supervisor Approval:	Date Analyzed	5-7-86
	QC Report No.	8010-30
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor _	N/A
<u>/X</u> / Soil (ug/g)	*Moisture	9
/_/ Other		
Spike Source		

	С	oncentrati	on	Retenti	on Time	Ţ
Compound	Det_Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethcxy)methane	0.010	ND<0.010				
Bis(2-chloroiscpropy1)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzere	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

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ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-SB3-SS8-20-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichlorcethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichlorcethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachiorcetnane	0.010	ND<0.010				
1,1,1,2-Tetrachioroethane	0.010	ND<0.010				
Tetrachioroetnylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Inteniorophopane	0.010	ND<0.010				
Vanyl chlorade	0.010	ND<0.010				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36762-11
Client	Field Sample No.	3-ERA7-SB4-SS8-20-ITC
Project AF Plant 42 IRP-II	Date Collected _	4-29-86
Client No.	Date Received	5-1-86
Laboratory Supervisor Approval:	Date Analyzed	5-7-86
	QC Report No.	8010-30
Sample Matrix:		
/_/ Water (ug/L)	Dilution Factor	N/A
/X / Soil (ug/g)	*Moisture	S
/_/ Other		
Spike Source		

	С	oncentrati	on	Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-SB4-SS8-20-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				·
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010		 -		
Tetrachicroethylene	0.010	ND<0.010				
1,1,1-Trichioroethane	0.010	0.078		13.5		
1,1,2-Trichiorcethane	0.010	ND<0.010				
Trichloroethylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichloropropage	0.010	ND<0.010				
Vinyl chloride	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES 10h No			•	ah Ca1-	A) a	26762 12	
ES Job No. 56394		-				36762-12	
Client			F	ield Sampl	e No. <u>3-</u>	<u>ERA7-SB4-SS</u>	3-5-170
Project <u>AF Plant 42 IRP-II</u>			Σ	ate Collec	ted	4-29-86	
Client No.		_		ate Receiv	ed	5-1-86	
Laboratory Supervisor Approva	l :		C	ate Analyz	ed	5-7-86	
	_		Ç	C Report N	lo	8010-30	
Sample Matrix:							
// Water (ug/L)			C)ilution Fa	ictor	N/A	·
<u>/X</u> / Soil (ug/g)			* *	loisture _			9
// Other							
Spike Source							
		C	oncentrati	on	Retent	ion Time	
Compound	Det	Lim	Column 1	Column 2	Column 1	Column 2	Notes

	C	oncentrati	on	Retenti	on Time]
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chloroethoxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0.010	ND<0.010				
Bromobenzene	0.010	NO<0.010				
Bromedichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				
Chloroacetaldehyde	0.010	ND<0.010				1
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chiorohexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chloromethy: methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-SB4-SS3-5-ITC

	Co	ncentratio	n	Retenti	on Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dibromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				······································
1,1-Dichloroetname	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichloroethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
i,i,2,2-Tetrachloroethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichlorcethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Trichlorpathylene	0.010	ND<0.010				
Trichlorofluoromethane	0.010	ND<0.010				
Trichlonophopane	0.010	ND<0.010				
Vinyl chlorids	0.010	ND<0.010				

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No56394	Lab Sample No	36762-13 Duplicate
Client		3-ERA7-SB4-SS3-5-ITC
Project AF Plant 42 IRP-II	Date Collected	4-29-86
Client No.	Date Received	5-1-86
Laboratory Supervisor Approval:	Date Analyzed	5-7-86
	QC Report No.	8010-30
Sample Matrix:		
// Water (ug/L)	Dilution Factor _	N/A
	*Moisture	
/_/ Other		
Spike Source		

	С	Concentration R			Retention Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzyl chloride	0.010	ND<0.010				
Bis(2-Chlorgethaxy)methane	0.010	ND<0.010				
Bis(2-chloroisopropyl)ether	0,010	ND<0.010				
Bromobenzene	0.010	ND<0.010				
Bromodichloromethane	0.010	ND<0.010				
Bromoform	0.010	ND<0.010				
Bromomethane	0.010	ND<0.010				
Carbon tetrachloride	0.010	ND<0.010				1
Chloroacetaldehyde	0.010	ND<0.010				1
Chloral	0.010	ND<0.010				
Chlorobenzene	0.010	ND<0.010				
Chloroethane	0.010	ND<0.010				
Chloroform	0.010	ND<0.010				
1-Chlorchexane	0.010	ND<0.010				
2-Chloroethyl vinyl ether	0.010	ND<0.010				
Chloromethane	0.010	ND<0.010				
Chioromethyl methyl ether	0.010	ND<0.010				
Chlorotoluene	0.010	ND<0.010				
Dibromochloromethane	0.010	ND<0.010				

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-SB4-SS3-5-ITC Dur. Proate

	Co	ncentratio	n	Retenti	Retention Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Dipromomethane	0.010	ND<0.010				
Dichlorodifluoromethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	ND<0.010				
1,2-Dichloroethane	0.010	ND<0.010				
1,1-Dichloroethylene	0.010	ND<0.010				
trans-1,2-dichlordethylene	0.010	ND<0.010				
Dichloromethane	0.010	ND<0.010				
1,2-Dichloropropane	0.010	ND<0.010				
1,3-Dichloropropylene	0.010	ND<0.010				
1,1,2,2-Tetrachionoethane	0.010	ND<0.010				
1,1,1,2-Tetrachloroethane	0.010	ND<0.010				
Tetrachloroethylene	0.010	ND<0.010				
1,1,1-Trichloroethane	0.010	ND<0.010				
1,1,2-Trichloroethane	0.010	ND<0.010				
Thichloroethylene	0.010	ND<0.010				
Intoblocofluoromethana	0.010	ND<0.010				
Trick landproplane	0.010	ND<0.010				
Viny% onlonade	0.010	ND<0.010				

NB - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

ES Job No. <u>56394</u>	Lab Sample No	36762-14 Spike	
Client		3-ERA7-SB4-SS3-5-ITC	
Project AF Plant 42 IRP-II	Date Collected	4-29-86	
Client No.	Date Received	5-1-86	
Laboratory Supervisor Approval:	Date Analyzed	5-7-86	
	QC Report No	8010-30	
Sample Matrix:			
<pre>// Water (ug/E)</pre>	Dilution Factor _	N/A	
<u>/X_</u> / Soil (ug/g)	*Moisture		_
/_/ Other			
Spike Source			_

	С	Concentration			Retention Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzyl chloride	0.010	ND<0.010				<u> </u>	
Bis(2-Chloroethoxy)methane	0.010	N5<0.010					
Bis(2-chloroisopropyl)ether	0.010	ND<0.010					
Bromobenzene	0.010	ND<0.010					
Bromodichloromethane	0.510	0.051		14.3			
Bromoform	0.010	0.050		19.5			
Bromomethane	0.010	ND<0.010					
Carbon tetrachloride	0.010	0.051		13.8			
Chloroacetaldehyde	0.010	ND<0.010					
Chloral	0.010	ND<0.010					
Chlorobenzene	0.010	0.047		24.3			
Chloroethane	0.010	ND<0.010					
Chloroform	0.010	0.051		11.5			
1-Chlorohexane	0.010	ND<0.010					
2-Chionoethyl vinyl ethen	0.010	ND<0.010					
Chloromethane	0.010	ND<0.010					
Chloromethy1 methyl ether	0.010	ND<0.010					
Chlorotoluere	0.010	ND<0.010					
Dibromochloromethane	0.010	0.150		17.0			

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organics SW Method 8010

3-ERA7-S84-SS3-5-ITC Spike

	Co	ncentratio	n	Retenti	Retention Time	
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	<u>Notes</u>
Dipromomethane	0.010	ND<0.010				
Dichloredifluoremethane	0.010	ND<0.010				
1,1-Dichloroethane	0.010	0.049		10.4		
:,2-Dichlorcethane	0.010	0.048		12.3		
1,1-Dichlordethylene	0.010	0.045		9.3		
thans-1.2-dichlondethylene	0.010	0.049		11.1		
Dishloropetrane	0.010	0.055		6.5		
1,2-Dichloropropane	0.010	0.048		15.6		
1,3-Dichloropropylene	0.010	0.150		15.9		
1,1,2,2-TetrachToroethane	0.010	0.089		21.6		
1,1,1,2-Tetrachlondetmane	0.010	ND<0.010				
Tetrachlordethylenc	0.010	0.089		21.6		
1,1,1-Trichlonoethane	0.010	0.070		13.5		
1,1,2-Thichichoethape	0.010	0.150		17.0		
Intonioncethylane	0.010	0.048		16.4		
Trichlorofluchomethare	0.010	ND<0.010				
Interioruptegane	0.010	NO<0.010				
yang Narianae	0.010	NEKS.010				

 $[\]rm MC$ - This compound was not detected; the limit of detection for this analysis is less than the arount stated in the table above.

QUALITY CONTROL RESULTS SUMMARY Anomatic Volatile Organics SW Method 8020

Lab Sample Nos. 3-EF Dup ³ scates 36762-9,		TTC					8020-25 5-16-86		
Spike 36762-12					•	ervisor			
Sample Matrix:				abo, acc	y Sup	C. V 1301	Approv	ui.	
•			_				N. / A		
∠ / Water (ug/L)						r			
$\frac{X}{X}$ / Soil (ug/Kg)			*M	oisture	·		·		·*
<u>/</u> / Other									
Spike Source									·
			plicat	ec		pike Re	covery	 	
. Compound	Blank			RPD	SA	SR SR	SSR	PR	Notes
	ND<	>GN	ND<						
! Benzere	0.005	0.005	0.005		0.050	<0.005	0.034	68	Ì
	>GN	ND<	ND<						
Chlorobenzene	0.005	0.005	0.005		0.053	<0.005	0.032	60	
	ND<	ND<	ND<						
1,2-Dichlorobenzene	0.005	0.005	0.005		0.054	<0.005	0.031	57	<u> </u>
	ND<	ND<	ND<				-)	i
1,3-Dichloropenzene	0.005	0.005	0.005		0.056	<0.005	0.031	55	
1	>GM	>GN	ND<					j	1
1,4-Dichlorobenzene	0.005	0.005	0.005		0.053	<0.005	0.029	55	
	ND<	ND<	ND<	į				1	
Ethyl benzene	0.005	0.005	0.005		0.054	<0.005	0.033	61	ļ
:	ND<	ĺ	ND<					2	
Toluene		0.005	*	7	0.058	0.005	0.035	5.7	i
į	>CN	Į.	ND<					-	
XVienes (Simethy) be	enzene) 0.005	10.020	0.005	1	i	0.020			1

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

Toluene

Xylenes (Dimetnyl penzene)

ANALYTICAL RESULTS SUMMARY Aromatic Volatile Organics SW Method 8020

ES Job No. 56394		1	an Sample	N.O.	36762-12		
Client			Lab Sample No. 36762-18 Field Sample No. 3-ERA7-SB1-SS3-5-ITC Date Collected 4-29-86				
5 55							
Client No.					5-1-86		
Laboratory Supervisor Appr			Date Analyzed				
			QC Report No. 8020-				
Sample Matrix:							
<pre>/// Water (ug L)</pre>			lilution Fa	ctor	N/A		
<u>X</u> / Soil (ug/g)		μ	loisture	sture			
<u>/</u> / Other	· · · · · · · · · · · · · · · · · · ·						
Spike Sounce						· · · · · · · · · · · · · · · · · · ·	
	<u>-</u>					T	
	Со	ncentratio	on	Retenti	on Time	}	
Compound			Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
<u> Chlorobenzere</u>	0.005	ND<0.005					
1,2-Dichloropenzere	0.005	ND<0.005					
1,3-0fonlandbehzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					

0.005 | ND<0.005

0.020

7.8*

8.0*

8.6*

0.005

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

 $[\]star$ - Re γ tention times for the 3 xylene isomers.

ES Job No. 56394		L	ar Sample	No	36762-19		
Client		F	ield Sampl	e No. <u>3-ER</u>	RA7-SB1-SS8	-20-ITC	
Project AF Plant 42		D	ate Collec	tea	4-29-86		
Client No.		D	Date Received 5-1-86				
Laporatory Supervisor Approv		C	ate Analyz	5-15-86			
		Q	QC Report No. 8020-25				
Sample Matrix:							
ے / water (ug/L)		ם	ilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		*M	loisture		·		
/_/ Other							
Spike Source							
	Υ			T	 	1	
	Co	ncentratio	n.	Retenti	Retention Time		
Compound					Column 2	Notes	
 Benzene	0.005	ND<0.005					
05.76.16	0.003	10000	 			<u> </u>	
Chlonobenzene	0.005	ND<0.005					
 1,2-Dionionopenzene	0.005	ND<0.005					
		1	<u> </u>			İ	
1,3-Dichloropenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
1 Deliver	1	1			<u> </u>		
Toluene	0.005	ND<0.005					
 	0.005	ND<0.005					
					 	 	
		1		1	1	Į.	

NO - This compound was not detected; the limit of detection for this analysis is less tran the amount stated in the table above.

ES Job No. 56394		L	ab Sample	No	36762-20		
Client		F	ield Sampl	e No. 3-ER	A7-SB2-SS4	-7.5-ITC	
Project <u>AF Plant 42</u>		а	ate Collec	ted	4-29-86		
Client No.							
Laboratory Supervisor Approva							
			C Report N	· · · · · · · · · · · · · · · · · · ·			
Sample Matrix:							
Water (ug/L)		D	ilution Fa	ctor	N/A		
/ <u>X</u> / Soii (ug/g)			loisture				
/_/ Other						_	
Spike Source							
				ı 		Т	
	(0	ncentratio	nn.	Retenti	on Time		
Compound	Det Lim		Column 2			Notes	
Benzene	0.005	ND<0.005					
1	0.005	10.003					
Chloropenzene	0.005	ND<0.005					
1,2-Dichlorobenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-0 golonodenzene	0.005	ND<0.005					
Ethyl penz en e	0.005	ND<0.005					
Toluene	0.005	ND<0.005					
Xylenes (Dimethyl bergene)	0.005	ND<0.005					
	!	ļ					
I and the second	1	T. Control of the Con	1	ı	I .		

NO - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. <u>56394</u>		L	ab Sample	No	36762-21			
Client		F	ield Sampl	e No. <u>3-ER</u>	A7-SB2-SS8	-20-ITC		
Project AF Plant 42		D	ate Collec	ted	4-29-86			
Client No.		D	5-1-86					
Laboratory Supervisor Approva		D	ate Analyz	ed	5-15-8€			
			C Report N					
Sample Matrix:								
/_/ Water (ug/L)		D	ilution Fa	ctor	N/A			
<u>/X</u> / Soil (ug/g)		M	bisture _					
// Other								
Spike Source								
	·					T		
1	Co	Concentration			on Time			
Compound			Column 2		Column 2	Notes		
	2 225				<u> </u>	ļ		
Benzene	0.005	ND<0.005				<u> </u>		
Chiorobenzene	0.005	ND<0.005						
1,2-Dichlorobenzene	0.005	ND<0.005						
1,3-Dichiorobenzene	0.005	ND<0.005						
1,4-Dichlorobenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toiuene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	0.013		7.8*				
Ayrenes (Dimethy) Senzene)	0.003	0.010		7.0		1		
				8.0*				
				9.6*				

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

^{* -} Reptention times for the 3 xylene isomers.

ES Job No. <u>56394</u>	Lab Sample No	36762-6	
Client	Field Sample No.	3-ERA7-SB3-SS3-5-ITC	
Project <u>AF Plant 42</u>	Date Collected	4-29-86	
Client No.	Date Received _	5-1-86	
Laboratory Supervisor Approval:	Date Analyzed	5-16-86	
	QC Report No	8020-25	
Sample Matrix:			
/ Water (ug/L)	Dilution Factor	N/A	_
<u>/X</u> / Soil (ug/g)	Moisture		<u>م</u>
/_/ Other			_
Spike Source			_

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichionopenzene	0.005	NO<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	0.009		4.8		
Xvlenes (Dimethyl benzene)	0.005	0.006		7.8*		
				8.0*	\ \	
				8.6*		

 ${\tt NO}$ - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

^{* -} Rentention times for the 3 xylene isomers.

ES Job No. <u>55394</u>		Lab Sample No36762-7					
Client		F	ield Sampl	e No. <u>3-ER</u>	A7-SB3-SS8	-20-ITC	
Project <u>AF Plant 42</u>			ate Collec	ted	4-29-86		
Client No.		Date Received		ed	4-30-86		
Laporatory Supervisor Approva		0	ate Analyz	ed	5-16-86		
		Q	C Report N	o	8020-25		
Sample Matrix:							
<pre>/_/ Water (ug/L)</pre>		0	dilution Fa	ctor	N/A		
<u>/X</u> / Soil (ug/g)		**	loisture				
/_/ Other							
Spike Source			- 				
	1					 _	
	Co	ncentratio	n	Retenti	on Time		
Compound			Column 2			Notes	
Benzene	0.005	ND<0.005					
Chlorobenzene	0.005	ND<0.005					
1,2-Dichloropenzene	0.005	ND<0.005					
1,3-Dichlorobenzene	0.005	ND<0.005					
1,4-Dichloropenzene	0.005	ND<0.005					
Ethyl benzene	0.005	ND<0.005					
Toluene	0.005	0.005		4.8			
Xylenes (Dimethyl penzene)	0.005	ND<0.005					
<u> </u>	+	 	 		 	 	

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		Ĺ	ab Sample	No.	36762-8			
Client		F	Field Sample No. 3-ERA7-SB4-SS3-5					
Project AF Plant 42		0	ate Collec	ted	4-29-86			
Client No.		0	ate Receiv	ed	5-1-86			
Laboratory Supervisor Approval:		0	ate Analyz	ed	5-16-86			
	_	Q	C Report N	lo	8020-25			
Sample Matrix:								
// Water (ug/L)		D	ilution Fa	ctor	N/A			
<u>/X</u> / Soil (ug/g)		M	oisture			9		
<u>/</u> / Other	·							
Spike Source				· · · · · · · · · · · · · · · · · · ·				
				Ţ				
	Co	ncentratio	n	Retenti	on Time]		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		

	Co	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Chlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichloropenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	0.005		4.8		
Xylenes (Dimethyl penzene)	0.005	0.026		7.8*		ļ
	<u> </u>			8.0*		
				8.7*		

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

^{* -} Rentention times for the 3 xylene isomers.

ES Job No. <u>56394</u>		L	ab Sample	No	36762-9		
Client		Field Sample No.			A7-SB4-SS8	-20-ITC	
Project <u>AF Plant 42</u>		Date Collected4-2					
Client No.		Date Received 5-1-86					_
Laboratory Supervisor Approva		D	ate Analyz	ed	5-16-86		
		Q	C Report N	0.	8020-25		
Sample Matrix:							
/_/ Water (ug/L)		D	ilution Fa	ctor	N/A	• · · · · · · · · · · · · · · · · · · ·	_
<u>/X /</u> Soil (ug/g)		M	oisture	···			<u>م</u>
// Other		· · · · · · · · · · · · · · · · · · ·					_
Spike Source					• • • • • • • • • • • • • • • • • • • •		_
	,			1			
	Co	ncentratio	n	Retenti	on Time		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes	
Benzene	0.005	ND<0.005					
		 			 		

	C0	ncentratio	n	Retenti		
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes
Benzene	0.005	ND<0.005				
Cnlorobenzene	0.005	ND<0.005				
1,2-Dichlorobenzene	0.005	ND<0.005				
1,3-Dichlorobenzene	0.005	ND<0.005				
1,4-Dichlorobenzene	0.005	ND<0.005				
Ethyl benzene	0.005	ND<0.005				
Toluene	0.005	0.005		4.8		
Xylenes (Dimethyl benzene)	0.005	0.020		7.8*		
				8.0*		
				8.77		

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

^{* -} Rentention times for the 3 xylene isomers.

ES Job No. 56394		L	ab Sample	No	36762-10	Duplicat		
Client		F	ield Sampl	e No. <u>3-ER</u>	A7-SB4-SS8	-20-ITC		
Project AF Plant 42		0	ate Collec	ted	4-29-86			
Client No.		D	ate Receiv	ed	5-1-86			
Laboratory Supervisor Approva		D	ate Anaîyz	ed	5-16-86	-86		
			C Report N					
Sample Matrix:								
<u>/</u> / Water (ug/L)			ilution Fa					
<u>/X</u> / Soil (ug/g)		*M	loisture _					
// Other								
Spike Source			 		·-··	 		
				<u> </u>		<u> </u>		
	Co	ncentratio	in	Retenti	Retention Time			
Compound	Det Lim	Column 1	Column 2	Column 1	Column 2	Notes		
Benzene	0.005	ND<0.005						
Chlorobenzene	0.005	ND<0.005						
1,2-Dichlorobenzene	0.005	ND<0.005						
1,3-Dichlorobenzene	0.005	ND<0.005	1					
1,4-Dichloropenzene	0.005	ND<0.005						
Ethyl benzene	0.005	ND<0.005						
Toluene	0.005	ND<0.005						
Xylenes (Dimethyl benzene)	0.005	ND<0.005						
<u></u>		 	ļ			 		

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

ES Job No. 56394		Lap Sample No36762-11 S					
Client					3-ERA7-S84-SS8-20-110 4-29-86		
Project AF Plant 42							
Client No.		0	ate Receiv	ea	5-1-86		
Laboratory Supervisor Approv			ate Analyz	ea	5-18-86		
		Q	C Report N	o	8020-25		
Sample Matrix:							
water (ug/L)		D	dilution Fa	ctor	N/A		
<u>_X_</u> /_Soil (ug/g)		×Ņ	loisture				
/ Other	-						
Spike Source							
	Ţ						
	Co	ncentratio	n	Retenti	on Time	:	
Compound			Column 2			Notes	
Benzene	0.005	0.034		2.5			
Chlorobenzene	0.005	0.032		7.8]	
1,2-Dichiorobenzene	0.005	0.031		14.3			
1,3-Dichloropenzene	0.005	0.031		12.8			
1,4-Dichloropenzene	0.005	0.029		12.7			
Etnyl benzene	0.005	0.033		7.3			
Toluene	0.005	0.035		4.8			
	1	1					
Xylenes (Dimethyl benzene)	0.005					!	
			 		ł	1 ;	
			 		<u> </u>	†	
i						<u> </u>	
1		i	i	1	i	i '	

F/LMED